

TWO STUDIES OF EDUCATION FINANCE AND MANAGEMENT IN THE CITY OF KIEV

Jan Herczyński



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Between City and Rayons
The Management and Financing
of Kiev Schools

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INTRODUCTION

The capital of Ukraine, the largest and richest city of the republic, is at the same time a complicated administrative structure, comprising the city of Kiev and 10 independent rayons, which have their own elected councils, their own rayon administrations subordinated to these councils, and their own independent budgets. The ten rayons, with their main indicators, are listed in Table 1.1, and the location of Kiev rayons, identified by their numbers, is shown in Figure 1.1.¹

Table 1.1
Population and Per Capita Revenues of Kiev Rayons

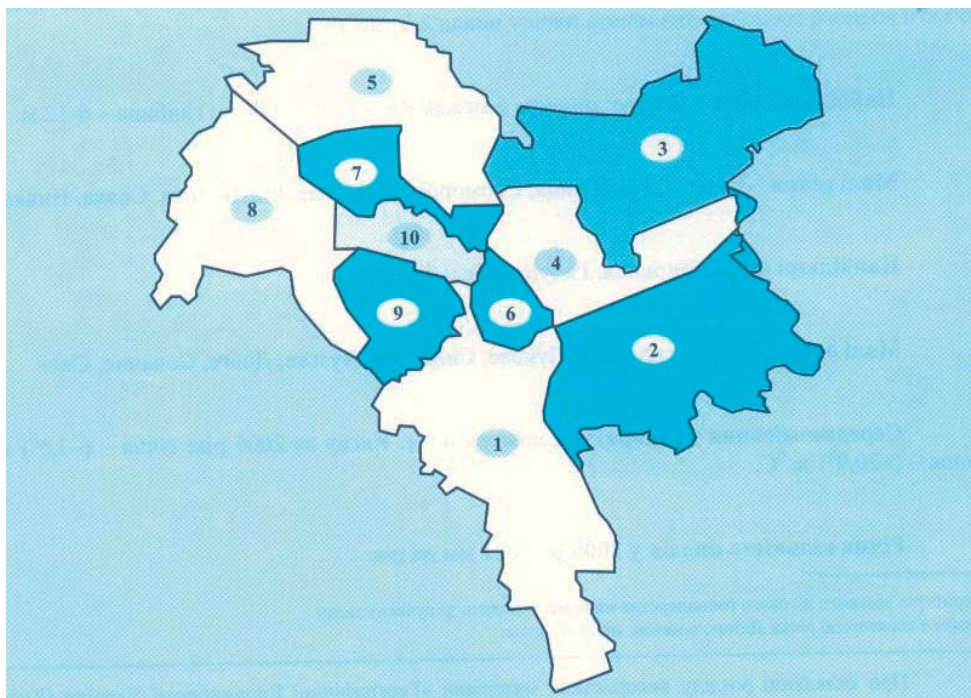
	Rayon name	Population (thousand)	Percent of total	Per capita budget (UAH)	Percent of city average
1	Golosiivskiy	219.1	8.2	985.2	98.5
2	Darnickiy	293.6	11.0	864.4	86.5
3	Desnanskiy	345.1	12.9	750.1	75.0
4	Dniprovskiy	337.3	12.6	902.4	90.3
5	Obolonskiy	308.1	11.5	849.5	85.0
6	Pecherskiy	129.9	4.9	1,225.9	122.6
7	Podilskiy	181.9	6.8	1,188.8	118.9
8	Svyatoshinskiy	319.9	12.0	923.8	92.4
9	Solomyanskiy	317.6	11.9	851.5	85.2
10	Shevchenkiskiy	224.3	8.4	1,962.7	196.3
	Total	2,676.8	100.0	999.8	100.0

There is a clear difference between three central rayons Pecherskiy, Shevchenkiskiy, and Podilskiy and the remaining peripheral rayons. The central rayons are the smallest in terms of area and population² and the richest at the same time. The size of Kiev rayons ranges from 130,000 inhabitants in Pecherskiy to 345,000 in Desnanskiy. Similarly, the richest rayon, Shevchenkiskiy, with a per capita budget of UAH 1,962 is more than two and a half times richer than the poorest Desnanskiy rayon with per capita budget of UAH 750.

It is, however, unsurprising that the smallest rayons are at the same time the richest, while the largest are the poorest. The three small rayons are all located in the center of the city, have relatively few inhabitants, and at the same time have the largest share of

institutions and enterprises. The inhabitants of peripheral rayons, often referred to in Kiev as *spalniye rayoni* (sleeping rayons), will usually work in the central rayons. Since the tax code of Ukraine assigns collected taxes to the municipality where the employer is registered and not to the municipality where the tax payer lives, these central rayons have large tax revenues, while larger peripheral rayons like Desnanskiy and Darnickiy have few companies and therefore lower tax revenues. As Table 1.2 shows, tax revenues are the main item of the revenue side of rayon budgets (with the single exception of Shevchenkiskiy rayon). This explains high per capita budgets of the central areas of Kiev and low budgets in the periphery. As we discuss in the following section (see Table 1.3), the Kiev city uses a very strong equalization mechanism to offset these inequalities.

Figure 1.1
Administrative Map of Kiev



Note: The rayons are numbered as in Table 1.1

However, Kiev *rayons* are almost fully responsible for financing of all Kiev schools,³ as Table 1.5 shows. Moreover it also demonstrates that education is the main expendi-

ture assignment of the rayons (again with the single exception of Shevchenkiskiy). This provides a serious challenge to education finance equity in Kiev.

The city understands this challenge and responds it through the definition of city-wide *financial normative of budget needs*, discussed later in Section 3 (see Table 1.15). Nevertheless, the relative independence of the *rayon* budgets and the somewhat unclear function of the city normatives mean that the results of this strategy are not as complete as the city probably hopes. The rayons are owners of school facilities, they set school budgets, and make the decisions on school networks (subject to approval by the Main Education Department). However, the director of the school, who executes the budget established and approved by the rayon Education Department, is appointed by the Main Education Department. Thus, the school director is suspended between the city and the rayons, which do not always manage to come to full agreement.

The focus of the present report is the relationship between the city and the rayons in the management of education and the effects it has on the city education system. The main institutions are the Main Education Department and the Main Finance Department of the city, as well as their equivalent at the level of rayons, namely the rayon Education Departments and Finance Departments.

In Section 1 we discuss the budgets of the city and the 10 rayons. A brief review of the city education system, including the migration of students across rayon boundaries, is provided in Section 2. The final section discusses the financing of schools by Kiev *rayons*. Annex A discusses the three formulas for normative education expenditures used in Ukraine to determine the equalization grants. Annex B provides a short review of the specific Ukrainian division of the budgets into *general* and *special* funds. Sources of statistical data are listed in the References.

Two important limitations of the present report need to be mentioned. One is related to the absence of any discussion of private funds (parental contributions) in public schools. The other is that no school-level analysis is conducted; only rayon-level data is used. Both issues require more effort and additional information.

I have profited from many useful discussions with Lilia Mihailivna Hrinevich, Nadezhda Mihailivna Oliferenko, Svitlana Mihailivna Shevchenko, Svitlana Yurievna Kolesnikova, and Svitlana Viktorievna Prohorenko.

CITY AND RAYON BUDGETS

The consolidated budget of Kiev includes 10 *rayon* budgets and the budget of the city. The budget revenues of these 11 budgets in 2007 are listed in Table 1.2.

Table 1.2
Revenues of Kiev Rayons and City (2007), UAH Million

Rayon name		Revenues							
		Tax	Non-tax	Capital	Categorical	Equalization	Subvention	Other	Total
1	Golosiiivskiy	140	30	17		9	19		216
2	Darnickiy	190	16	11		14	23		254
3	Desnanskiy	193	22	4		15	25		259
4	Dniprovskiy	208	31	15	0	18	32		304
5	Obolonskiy	195	17	8	1	15	26		262
6	Pecherskiy	93	31	10		8	17		159
7	Podilskiy	136	23	25	1	10	21		216
8	Svyatoshinskiy	199	17	19	15	16	29		296
9	Solomyanskiy	171	19	42	0	13	25		270
10	Shevchenkiskiy	152	200	40	8	13	28		440
	Total rayons	1,678	406	191	25	132	245		2,676
	City of Kiev	6,630	344	1,563	1,173		2,088	1,667	13,465
	City consolidated	8,308	749	1,754	1,199		2,088	1,667	15,764

The following comments are necessary to understand Table 1.2:

- Table 1.2 includes both a *general fund* and a *special fund* part of the budget.⁴ In 2007, the general fund revenues of the 10 rayons were equal to UAH 2,130 million (79.6 percent of the total), while general fund revenues of the city budget was UAH 8,948 million (66.5 percent of the total).
- Of the tax revenues (budget code 10,000,000), the main is the revenue from personal income tax (tax on revenues of physical persons). According to the Budget Code (Article 65), 100 percent of this tax stays in the city of Kiev. However, the Kiev city council in its yearly budgets decides on the division of this tax between the rayon budgets and the city budget. The percentage of personal income tax that stays in the rayon budget depends on the rayon and may be different every year. The city uses this freedom to create a strong fiscal equalization instrument. In 2007, it ranged between 1.5 percent in Pecherskiy and 56.8 percent in Desnanskiy (see Table 1.3). Analogously, 100 percent of the land tax stays in the city of Kiev (Budget Code, Article 69), but the city

assigns some share of this tax to remain in the rayons budget. In 2007, this share ranged between one percent in Pecherskiy and 90 percent in Darnickiy and Desnanskiy, see Table 1.3.

- Non-tax revenues (budget code 20,000,000), include fees and charges, part of the revenues of state or communal companies transferred to local governments, as well as own revenues of communal institutions.
- Capital revenues (budget code 30,000,000) come mostly from the sale of communal land.
- Categorical funds (budget code 50,000,000) are revenues from specific programs of the state budget, but also include some local charges and revenues from the sale of some parts of communal buildings.
- For each rayon, an equalization grant (“dotation”) is set by the city according to the national formula and transferred from the city budget to *rayon* budgets. It is therefore not included in the consolidated budget of the city. Note, however, that at the same time the city uses a much stronger equalization instrument, discussed in Table 1.3.
- It is important to realize that every year the city of Kiev, as a very rich jurisdiction, pays to the state budget (into the national equalization pool) a large sum of funds. In 2007, this amounted to UAH 2,744 million, which was 17.5 percent of the consolidated city budget.
- “Subventions” in the Ukrainian budget terminology are targeted grants. They come from the city budget to the rayon budgets and are thus not included in the consolidated budget. Two subventions are defined in the general fund: for payment of debts to teachers for salaries unpaid in the 1990s and for the renovation of street networks. The following subventions are defined in the special fund: for renovation of facilities of social assistance (World Bank project), three subventions for education (computerization, preschool investments, and school investments, see table below), for the city investment project, *Your House, Your Courtyard* (this is by far the largest subvention), and for investments in rayon administration offices.
- “Other revenues” include UAH 666 million of revenues from active operations (revenues from bank transactions), and UAH 1,000 million transferred from the general fund of the budget into the special fund of the budget. This amount also appears as expenditures of the general fund. Technically speaking, it should not be included in either the revenues or expenditures, since it is a technical transfer between two parts of the same budget. This would reduce the consolidated budget of the city to 14,764 million.

As mentioned above, the city decides on what share of personal income tax and of land tax will remain in the rayon budgets for each year and for each rayon. For example, Shevchenkiskiy rayon kept six percent of personal income tax collected on its territory and 30 percent of the land tax in 2006. In 2007, these were reduced to 2.8 percent and 11 percent respectively. These shares are published in the yearly budget of Kiev city. They are listed in Table 1.3 for 2007.

Table 1.3
Rayon Shares of PIT and Land Tax in 2007

Rayon name	Percent of personal income tax	Percent of land tax
1 Golosiivskiy	6.8	50.0
2 Darnickiy	43.0	90.0
3 Desnanskiy	56.8	90.0
4 Dniprovskiy	38.0	50.0
5 Obolonskiy	28.2	50.0
6 Pecherskiy	1.5	1.0
7 Podilskiy	16.0	50.0
8 Svyatoshinskiy	29.9	50.0
9 Solomyanskiy	13.0	50.0
10 Shevchenkiskiy	2.8	11.0
Total rayons (average)	12.4	43.0
City of Kiev	87.6	57.0

Table 1.3 indicates that the Kiev city councils makes a serious effort to equalize the tax revenues of different rayons, by assigning to the rayon budget higher share of personal income tax and of land tax in poor rayons, such as Desnanskiy and Darnickiy, and much lower share in rich rayons, such as Pecherskiy and Shevchenkiskiy. Without this effort the differences in per capita budgets of Kiev rayons would be much higher than those reported in Table 1.1. For example, an increase of the share of personal income tax remaining in Shevchenkiskiy rayon budget to 10 percent would have resulted, in the conditions of 2007, in the increase of rayon revenues by UAH 141 million, or by 32 percent of all the revenues. At the same time, however, Table 1.3 proves that the budgetary independence of the rayons is quite limited, as the city can unilaterally adjust and change their main sources of rayon revenues.

Interestingly, Table 1.3 shows that, according to the Main Finance Department of the city, Podilskiy rayon is relatively poorer than Golosiivskiy, as it retains a higher percentage of personal income tax. This means that the division of rayons into the three rich central rayons and the poorer peripheral rayons, discussed in the introduction, is not an absolute one.

A review of Table 1.2 shows that the rayon budgets form a very limited part of the consolidated city budget, at just under 17 percent. Most of the city expenditures are managed directly by the city. Thus social protection, health, roads, buildings and similar city functions are the responsibility of the city authorities and are financed directly by the city. There is only one major function delegated to the rayons, education, as we discuss in detail below (see Table 1.5).

The following Table 1.4 provides the structure of revenues of all rayons and of the city.

Table 1.4
Structure of Revenues of Kiev Rayons and City (2007)

Rayon name		Revenues (percent)						
		Tax	Non-tax	Capital	Categorical	Equalization	Subvention	Other
1	Golosiivskiy	64.9	14.1	7.9		4.3	8.7	
2	Darnickiy	74.9	6.2	4.4		5.6	8.9	
3	Desnanskiy	74.4	8.6	1.5		5.6	9.8	
4	Dniproviskiy	68.4	10.1	4.9	0.1	5.9	10.6	
5	Obolonskiy	74.7	6.5	3.1	0.4	5.6	9.7	
6	Pecherskiy	58.6	19.4	6.3		5.3	10.5	
7	Podilskiy	62.8	10.5	11.6	0.4	4.8	9.9	
8	Svyatoshinskiy	67.4	5.7	6.4	5.1	5.4	9.9	
9	Solomyanskiy	63.2	7.1	15.4		5.0	9.2	
10	Shevchenkiskiy	34.5	45.3	9.1	1.8	2.9	6.4	
	Total rayons	62.7	15.2	7.1	0.9	4.9	9.2	
	City of Kiev	49.2	2.6	11.6	8.7		15.5	12.4
	City consolidated	52.7	4.8	11.1	7.6		13.2	10.6

We see that tax revenues of all rayons are between 60 percent and 75 percent with the single exception of Shevchenkiskiy rayon with very high non-tax revenues. Shevchenkiskiy rayon is rather unique in having very high non-tax revenues; as Table

1.2 shows it collects half of all non-tax revenues in the rayons. These revenues include UAH 45 million from rent of communal buildings (in the general fund) and UAH 61 million of own revenues of city rayon institutions, also probably due to rent (in the special fund). This source of revenues is not available to peripheral rayons. Note also that the prominence and distribution of revenues from taxes are largely due to the city decisions on the allocation of personal income tax and of land tax between the rayon and city budget, as described in Table 1.3.

Overall, transfers from the city budget form only 14.1 percent of rayon revenues. These include 4.9 percent of equalization transfers and 9.2 percent of subventions.

Finally, we turn to the position of education expenditures in the city budget. We provide not only the budget expenditures and how they are distributed across the 10 rayons and the city, but also the share of education in the respective budget (the breakdown of education budgets into more detailed budget categories is discussed below, see Table 1.18).

Table 1.5

Overall Education Expenditures of Kiev Rayons and City (2007), UAH Million

	Rayon name	Education expenditures	Share of all education expenditures	Share of total rayon/city budget
1	Golosiivskiy	119.49	7.1%	55.4%
2	Darnickiy	170.47	10.1%	67.2%
3	Desnanskiy	177.75	10.5%	68.7%
4	Dniprovskiy	184.31	10.9%	60.5%
5	Obolonskiy	163.71	9.7%	62.5%
6	Pecherskiy	69.16	4.1%	43.4%
7	Podilskiy	118.47	7.0%	54.8%
8	Svyatoshinskiy	176.52	10.4%	59.7%
9	Solomyanskiy	144.35	8.5%	53.4%
10	Shevchenkiskiy	144.49	8.5%	32.8%
	Total rayons	1,468.72	86.7%	54.9%
	City of Kiev	225.06	13.3%	1.7%
	City consolidated	1,693.78	100.0%	10.7%

Table 1.5 shows that rayons are responsible for over 86 percent of all education budgets in the city. Of the education budget of the city, UAH 160 million is for technical-professional education, higher education, and post-diploma education.

Table 1.5 also confirms that education is indeed the main function of the rayons. With the exception of Shevchenkiskiy and Pecherskiy *rayon*, education is over half of the rayon budget, coming close to 70 percent in Desnanskiy and Darnickiy. At the same time, education is only 1.7 percent of the city budget, even including professional and higher education.

The following Table 1.6 lists specific subventions from the city to rayon budgets in the education sphere.

Table 1.6
Education Subventions to Kiev Rayons, UAH Thousand

	Rayon name	Computerization of schools	Investments in preschools	Investments in schools
1	Golosiivskiy	889	2,153	1,906
2	Darnickiy	1,707	3,097	2,365
3	Desnanskiy	1,809	5,210	1,517
4	Dniprovskiy	1,740	2,219	2,315
5	Obolonskiy	1,245	2,126	2,742
6	Pecherskiy	428		2,078
7	Podilskiy	1,209	2,326	2,451
8	Svyatoshinskiy	1,931	2,911	2,532
9	Solomyanskiy	1,316	2,671	2,176
10	Shevchenkiskiy	1,380	1,063	3,943
	Total rayons	13,654	23,776	24,025

Altogether, the three education subventions to Kiev rayons amount to UAH 61 million, or about 25 percent of all the subventions. They also form about four percent of all education expenditures of rayons.

We conclude this section with a discussion of a common misconception that the city allocates specific funds to rayons for education. As we have seen in the budgets of the rayons and of the city, no such transfer of funds for education exists (it would appear as expenditure of city budget and as revenue in rayon budgets). There are a few targeted subventions for specific education programs, listed in Table 1.6, but these are relatively small and by definition of subvention cannot be used to finance recurrent expenditures in rayon schools.

Nevertheless, the Main Finance Department is closely involved in assessing the budget needs of all rayons, because it has to decide on the shares of personal income tax and land tax which stay at the rayon level (see Table 1.3) (and also on the equalization dotation, serving largely the same purpose). In order to do this, the city assesses expenditure needs of the rayons for all their responsibilities, and also their prospective revenues, and on this basis sets the shares of retained taxes. As we have seen from Table 1.5, this means first of all assessing expenditure needs in education. The Main Finance Department certainly uses some methodology for assessing this⁵ and on its basis decides on the level of revenues for the next budget year. Since the methodology is not publicly known, the assessments of the Main Finance Department cannot be independently verified and critically discussed.

Thus it seems true to say that the city decides on the overall level of rayon revenues, but not on the way those revenues are used. No specific flow of funds to the rayon budgets is calculated on the basis of student numbers or is intended to finance recurrent school expenditures.

EDUCATION SYSTEM OF KIEV CITY

The education system of the city of Kiev includes the following institutions:

- Preschools owned and financed by the rayons.
- Secondary schools⁶ owned and financed by the rayons with the exception of an Olympic sports boarding school and a distance-learning school (for grades eight to twelve), for both of which the city is the founder.
- Professional-technical schools PTU, covering grades ten to twelve (27 institutions), owned and financed by the city.
- Kiev city municipal pedagogical university owned and financed by the city.
- Teacher Institute, responsible for in-service training of teachers, owned and financed by the city.
- Two institutions of extra school education (focusing on art subjects and on tourism), owned and financed by the city.

There also are a large number of higher education institutions as well as four PTUs, owned and financed directly by the Ministry of Education and by some other ministries. The present report focuses on secondary schools, and therefore on the managerial and financial responsibilities of rayons.

In the following tables we provide the numbers of students of secondary schools in 2007, broken down by rayon and by school type. We divide all Kiev schools into four types:

- 1) Regular general education schools, called *regular*.
- 2) Schools organized together with preschools, typically providing education only for the first four grades and aimed at providing a safe and familiar teaching environment, called below *schools with preschools*, abbreviated to *W/preschools*.⁷
- 3) Boarding schools, including general boarding schools, special boarding schools, boarding schools for orphans, and sanatorium schools, called *boarding*.
- 4) Specialized schools, including schools with deepened study of some subjects and the new type schools (gymnasium, lyceum), called *specialized*.

The above classification of Kiev schools is based on the assessment that the differences between regular and specialized schools are important and should be monitored by the city. It is worth pointing out that the process of transformation of a regular secondary school into a specialized school is largely governed by rayon authorities, through the accreditation procedure, although the final approval comes from the Main Education Department. For example, Obolonskiy rayon has an expressed policy of changing all their secondary schools and obtaining the status of specialized ones. The accreditation process required for the change of school status is seen as an important instrument of enhancing education quality. Moreover, the specialized schools have enhanced curriculum (additional lessons chosen according to school specialization), and the teachers receive a ten-percent increase of their salaries,⁸ in addition to the 20-percent increase above the national teacher pay scale given to all Kiev teachers.

Boarding schools have of course higher recurrent costs due to expenditures on boarding. Schools with preschools often provide additional care for very young students, including food (which is prepared together with the food for the associated preschool).

Table 1.7 displays the number of schools belonging to these four types in each rayon.

Table 1.7
Kiev Schools by Type and Rayon

	<i>Rayon name</i>	<i>Regular</i>	<i>Specialized</i>	<i>Boarding</i>	<i>W/preschool</i>	<i>All</i>
1	Golosiivskiy	18	13	3	4	38
2	Darnickiy	14	19	2	12	47
3	Desnanskiy	34	12		16	62
4	Dniprovskiy	25	23	3	9	60
5	Obolonskiy	21	15	5	5	46
6	Pecherskiy	9	15			24
7	Podilskiy	13	12	4	10	39
8	Svyatoshinskiy	20	16	2	12	50
9	Solomyanskiy	20	21	4	12	57
10	Shevchenkiskiy	12	24	4	7	47
	Total	186	170	27	87	470

Interestingly, there are already more specialized schools than general secondary schools in Kiev, which indicates the rapid movement toward new school types (gymnasias, lyceums, as well as schools with deepened study of certain subjects, notably languages). This is even more apparent when we consider the number of students in each school type, by rayon, in Table 1.8.

Table 1.8
Students in Kiev Schools by Type and Rayon

	<i>Rayon name</i>	<i>Regular</i>	<i>Specialized</i>	<i>Boarding</i>	<i>W/preschool</i>	<i>All</i>
1	Golosiivskiy	9,325	8,142	523	344	18,334
2	Darnickiy	9,225	18,295	165	1,022	28,707
3	Desnanskiy	19,216	8,403		1,687	29,306
4	Dniprovskiy	15,251	14,798	613	997	31,659
5	Obolonskiy	13,713	11,272	744	427	26,156
6	Pecherskiy	4,428	9,142			13,570
7	Podilskiy	6,644	8,313	822	1,050	16,829
8	Svyatoshinskiy	12,672	14,225	466	1,079	28,442
9	Solomyanskiy	9,571	11,875	662	1,124	23,232
10	Shevchenkiskiy	6,826	12,399	778	469	20,472
	Total	106,871	116,864	4,773	8,199	236,707

Over half of all students in Kiev attend specialized secondary schools. The number of boarding school students is very small, while a minority of nearly 4.4 percent attends schools with preschools. However, the shares of students attending different school types vary significantly among the rayons, as Table 1.9 shows.

Table 1.9
Students in Kiev Schools (Structure in Rayons)

	<i>Rayon name</i>	<i>Regular</i>	<i>Specialized</i>	<i>Boarding</i>	<i>W/preschool</i>
1	Golosiivskiy	50.9%	44.4%	2.9%	1,9%
2	Darnickiy	32.1%	63.7%	0.6%	3,6%
3	Desnanskiy	65.6%	28.7%		5,8%
4	Dniprovskiy	48.2%	46.7%	1.9%	3,1%
5	Obolonskiy	52.4%	43.1%	2.8%	1,6%
6	Pecherskiy	32.6%	67.4%		
7	Podilskiy	39.5%	49.4%	4.9%	6,2%
8	Svyatoshinskiy	44.6%	50.0%	1.6%	3,8%
9	Solomyanskiy	41.2%	51.1%	2.8%	4,8%
10	Shevchenkiskiy	33.3%	60.6%	3.8%	2,3%
	Total	45,1%	49.4%	2.0%	3.5%

Table 1.9 is interesting in a number of respects. First, we note that the distribution of students in schools with preschools varies from zero percent in Pecherskiy rayon to over six percent in Podilskiy rayon. As both of these are rich central rayons, and as among poorer peripheral rayons we also see some with a relatively high share of students in schools with preschools (such as Desnanskiy), and some with a low share (such as Golosiivskiy), we conclude that each rayon has its own policy regarding these schools, probably to some extent influenced by the pressure from parents and by the availability of the appropriate facilities.⁹

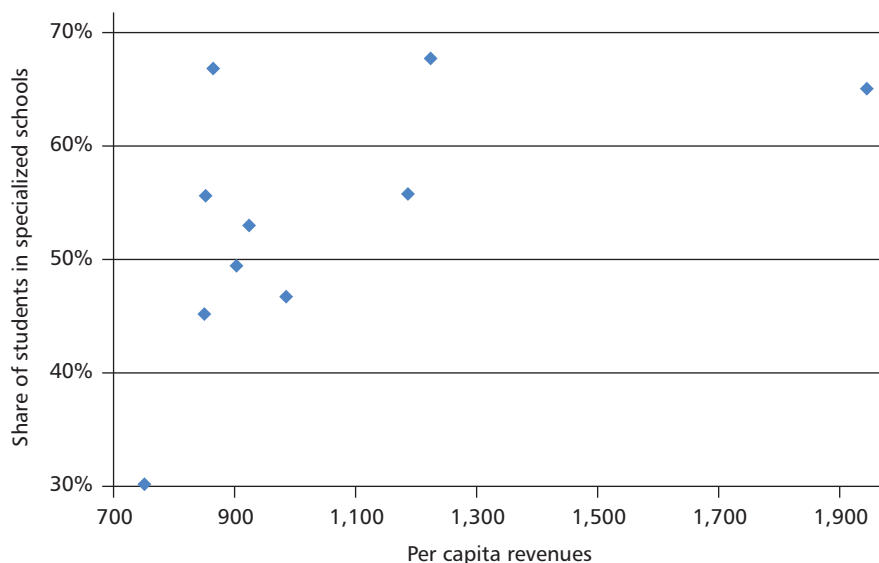
Even more interesting is the distribution of students between general and specialized secondary schools. We mentioned above that Obolonskiy rayon has a policy of transforming all its schools into specialized schools. Table 1.7 and Table 1.9 show that it has a long way to go, while Pecherskiy and Darnickiy rayon are most advanced on this path. The smallest share of students in specialized schools, at 29 percent, is in Desnanskiy rayon, which we recall is also the poorest (see Table 1.1). Among the central rayons Podilskiy rayon seems exceptional in having the relatively low share of 50 percent of students in specialized schools. However, this is the rayon with the highest share of students of boarding schools, five percent, and of students in schools with preschools.

If we take into consideration only the regular and specialized schools in Podilskiy, we see that 56 percent of students attend the specialized schools.

For a comparable picture of all rayons, in the following Figure 1.2 we exclude from analysis boarding schools and schools with preschools, and we locate each *rayon* by its per capita revenues (from Table 1.1) and share of students of specialized schools (among students of regular and specialized schools, from Table 1.8).

Figure 1.2

Rayons with Per Capita Revenues and Share of Students in Specialized Schools



We note that apart from the Shevchenkiskiy rayon, which as the richest is an isolated outlier, there is a tendency of richer rayons to have more specialized schools. The correlation coefficient of the two variables is $R = 0.59$ (with Shevchenkiskiy rayon excluded). This implies that richer rayons may provide more help to their schools to pass through the accreditation process.

Table 1.7 and Table 1.8 allow us to obtain the information about school size (the average number of students in the school).

Table 1.10
Average School Size by Type and Rayon

	<i>Rayon name</i>	Regular	Specialized	Boarding	W/preschool	All
1	Golosiivskiy	518	626	174	86	482
2	Darnickiy	659	963	83	85	611
3	Desnanskiy	565	700		105	473
4	Dniprovskiy	610	643	204	111	528
5	Obolonskiy	653	751	149	85	569
6	Pecherskiy	492	609			565
7	Podilskiy	511	693	206	105	432
8	Svyatoshinskiy	634	889	233	90	569
9	Solomyanskiy	479	565	166	94	408
10	Shevchenkiskiy	569	517	195	67	436
	Total	575	687	177	94	504

It is unsurprising that boarding schools are on average much smaller than regular and specialized schools. Even smaller are the schools with preschools. This again testifies to their specific role in maintaining a friendly secure atmosphere for their students.¹⁰ However, the size of these schools varies with the rayon.

The relative size of regular and specialized schools merits deeper review. Overall, specialized schools are larger by over 100 students, or by nearly 20 percent, compared to the regular schools. This is especially evident in some peripheral rayons like Svyatoshinskiy and Darnickiy in which specialized schools have on average over 800 students and are larger than regular schools by over 200 students. This implies a huge demand for places in these schools. This was confirmed in discussions with directors of specialized Kiev schools, which operate above their capacity, with overloaded classes. Table 1.11 provides the number of classes in Kiev schools by school type and by rayon and Table 1.12 presents the average class sizes.

Table 1.11
Classes in Kiev Schools by Type and Rayon

	Rayon name	Regular	Specialized	Boarding	W/preschool	Total
1	Golosiivskiy	365	310	55	16	746
2	Darnickiy	319	692	22	48	1,081
3	Desnanskiy	818	344		89	1,251
4	Dniprovskiy	581	556	53	55	1,245
5	Obolonskiy	549	433	80	24	1,086
6	Pecherskiy	184	334			518
7	Podilskiy	286	316	70	48	720
8	Svyatoshinskiy	498	526	47	50	1,121
9	Solomyanskiy	400	472	82	51	1,005
10	Shevchenkiskiy	290	490	55	27	862
	Total	4,290	4,473	464	408	9,635

Dividing data in Table 1.8 by data in Table 1.11, we obtain class sizes.

Table 1.12
Class Sizes in Kiev Schools by Type and Rayon

	Rayon name	Regular	Specialized	Boarding	W/preschool	Total
1	Golosiivskiy	25.55	26.26	9.51	21.50	24.58
2	Darnickiy	28.92	26.44	7.50	21.29	26.56
3	Desnanskiy	23.49	24.43		18.96	23.43
4	Dniprovskiy	26.25	26.62	11.57	18.13	25.43
5	Obolonskiy	24.98	26.03	9.30	17.79	24.08
6	Pecherskiy	24.07	27.37			26.20
7	Podilskiy	23.23	26.31	11.74	21.88	23.37
8	Svyatoshinskiy	25.45	27.04	9.91	21.58	25.37
9	Solomyanskiy	23.93	25.16	8.07	22.04	23.12
10	Shevchenkiskiy	23.54	25.30	14.15	17.37	23.75
	Total	24.91	26.13	10.29	20.10	24.57

Table 1.12 shows that there is a significant variation of average class sizes across rayons. The smallest classes with an average size of 23.1 students are in Solomyanskiy rayon, and the largest is with an average of 26.6 students in Darnickiy.

We also see, as expected, that on average classes in specialized schools are larger than in regular schools, in some cases by over three students per class. This strengthens the conclusion that there is an increasing parental pressure to have their children admitted to specialized schools. This leads to excessive size of these schools and also to overloading of their classes.

We recall, however, that children and young people in Kiev may attend any school they choose, on the condition that it finds places for them (or as Table 1.10 and Table 1.12 indicate, as long as it is able to put them into an overcrowded class). It is therefore very interesting to review the migration of children among the rayons: how massive is this migration, from which rayons do children emigrate, and to which rayons do they immigrate?¹¹ Unfortunately, Ukrainian schools do not routinely collect information about the place of residence of their students (so it is not possible to know from the statistical data what percentage of students of a given school come from outside of their catchment area, called microrayon in Ukraine), and the breakdown of Kiev population by age and by rayon is inaccessible, too.¹² Therefore, in order to estimate student migrations across Kiev rayons we need to use some simplifying assumptions.

Namely, we assume that the number of school aged children per 1,000 inhabitants is the same in all Kiev rayons. In fact, we know that this assumption is not fully true. In general, the central rayons are likely to be older and with fewer school aged children, while young families tend to settle in peripheral rayons. However, as Kiev rayons are very large, we can assume that the differences are not very large. Also we do not consider students coming from outside Kiev and living in boarding schools, but we include students in schools with preschools (which in most cases attend the school closest to their place of residence, therefore do not migrate).

Comparing data from Table 1.1 and Table 1.7, we see that on average there are 86.65 students per 1,000 population, with data for rayons presented in Table 1.13.

We find the largest number of students per 1,000 population in Pecherskiy rayon at 121 percent of the city average, in Darnickiy rayon (112 percent), and in Dniproviskiy rayon (106 percent). The lowest is in Solomyanskiy rayon at 82 percent of the city average and in Obolonskiy (95 percent). According to the simplified methodology we are using, these will be the rayons with the largest immigration and emigration of students, respectively. Indeed, assuming the actual number of residing children per 1,000 population is the same, we explain the different numbers of students by student migration.

Table 1.13
Number of Students Per 1,000 Population by Rayon

	Rayon name	Students per 1,000 population	Relative to the city average
1	Golosiivskiy	81.29	93.8%
2	Darnickiy	97.21	112.2%
3	Desnanskiy	84.92	98.0%
4	Dniprovskiy	92.04	106.2%
5	Obolonskiy	82.48	95.2%
6	Pecherskiy	104.46	120.6%
7	Podilskiy	88.00	101.6%
8	Svyatoshinskiy	87.45	100.9%
9	Solomyanskiy	71.06	82.0%
10	Shevchenkiskiy	87.80	101.3%
	Total	86.65	100.0%

Thus Table 1.14 provides the expected and the actual number of students in each rayon (without students of boarding schools), calculates the difference due to migration, and estimates it as a percent of residing children for emigration and as a percent of enrolled students for immigration.

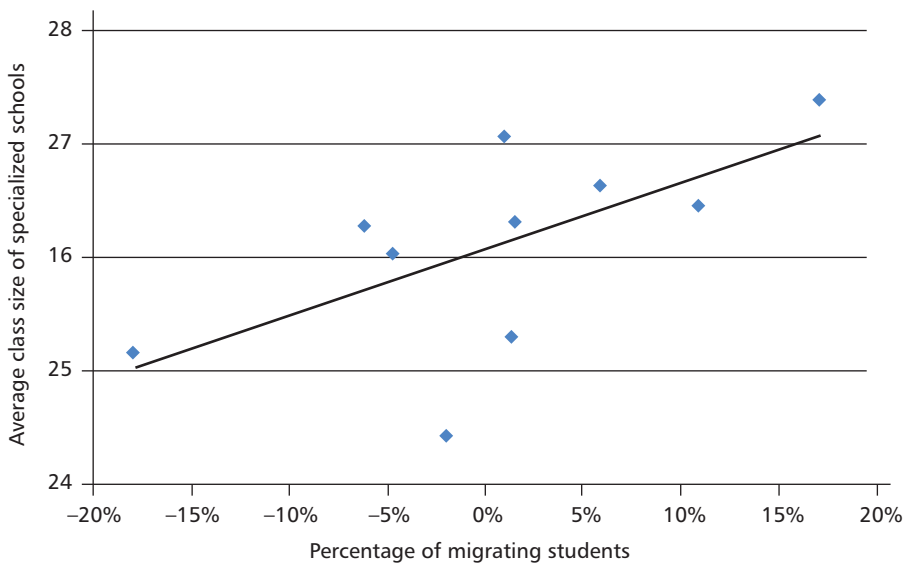
Table 1.14
Estimated Migration of Students across Kiev Rayons

	Rayon name	Estimated children	Actual students	Migration out	Migration In	Percent of Children	Percent of students
1	Golosiivskiy	18,984	17,811	1,173		6.2%	
2	Darnickiy	25,439	28,542		3,103		10.9%
3	Desnanskiy	29,902	29,306	596		2.0%	
4	Dniprovskiy	29,226	31,046		1,820		5.9%
5	Obolonskiy	26,696	25,412	1,284		4.8%	
6	Pecherskiy	11,255	13,570		2,315		17.1%
7	Podilskiy	15,761	16,007		246		1.5%
8	Svyatoshinskiy	27,718	27,976		258		0.9%
9	Solomyanskiy	27,519	22,570	4,949		18.0%	
10	Shevchenkiskiy	19,435	19,694		259		1.3%
	Total	231,934	231,934	8,001	8,001	3.4%	3.4%

We note that according to our simplified model, 3.4 percent of all Kiev students migrate across rayon boundaries. However, the actual situation is quite varied in specific rayons, as Table 1.14 shows. From Solomyanskiy and Obolonskiy rayon about 18 percent and five percent respectively of all children attend schools located in another rayon. On the other hand, over 17 percent of students in Pecherskiy rayon and 11 percent in Darnickiy rayon come to the rayon schools from other rayons. These are significant percentages. We may assume but have no way of verifying that most children emigrating from Solomyanskiy rayon to schools in other rayons get enrolled in Pecherskiy and Darnickiy rayons due to the geographical proximity (see Figure 1.1).

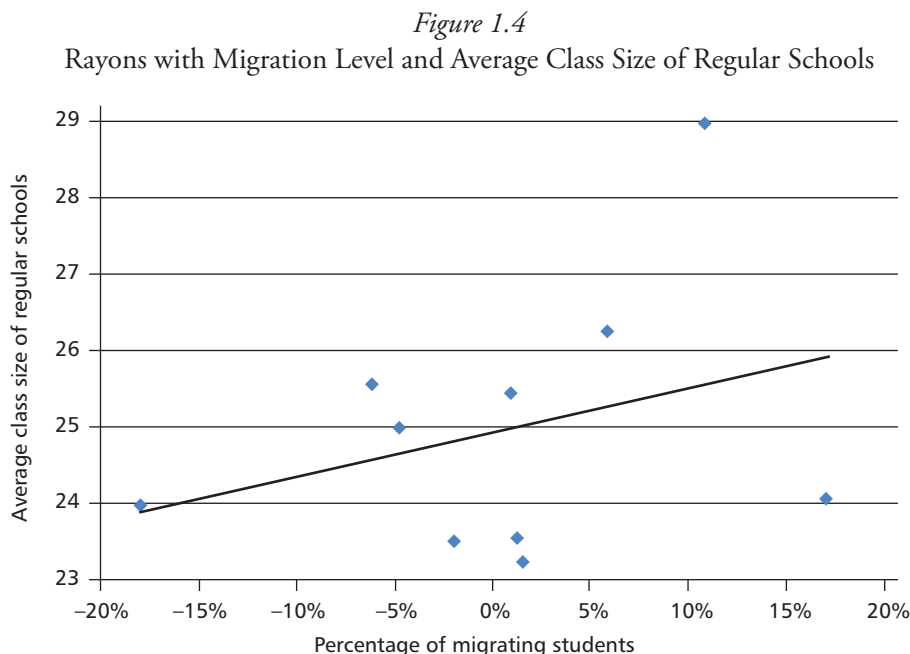
The simplified model we are using does not allow us to determine which schools attract migrating students. However, we suspect that they are more likely to choose specialized schools. One way to verify this is to analyze the relationship between migration and average class size for types of school. To this end, we define migration level as the difference between the number of students and the number of children, divided by the number of children, for every rayon. Figure 1.3 displays all rayons located by migration level and average class size of specialized school.

Figure 1.3
Rayons with Migration Level and Average Class Size of Specialized Schools



We note that there is a clear tendency to form larger classes in those rayons where more children are coming. Indeed, the correlation coefficient of the two variables is $R = 0.62$. Thus if there are more incoming students, then the classes of specialized schools have to be increased to accommodate them.

Figure 1.4 presents the same data for average class sizes of regular schools.



No such strong tendency as the one visible in Figure 1.3 can be seen here, and indeed the correlation coefficient of the two variables is just $R = 0.33$. This means that incoming students do not overcrowd the classes of regular schools.

We thus conclude that the significant student migration between Kiev rayons has as its primary objective enrollment in specialized schools. While this conclusion is obvious for all professionals responsible for management of education in Kiev, and indeed agrees with common sense and with information obtained from school directors, our analysis provides some numerical evidence. It also shows that the opinions of the city and *rayon* education departments that specialized schools offer education of higher quality is shared by most parents.

RAYON EDUCATION EXPENDITURES

The city of Kiev defines its own financial norms of budget needs in education independently of the national norms set on the basis of Decision 1195 and discussed in Annex A. The city norms appear in the justification of city draft budgets and are calculated on the basis of previous years expenditures by the school type (overall expenditures for a given type of schools divided by the number of students), taking

into account the inflation prognosis and the planned increases of the teacher salary pay scale. Their calculation is performed by the Main Finance Department of the city, without collaboration or input from the Main Education Department, and is seen as a routine application of the rules. Very importantly, there is no decision or document by the Kiev City Council defining what financial norms should be used and how they should be calculated. This is an own initiative of the Main Finance Department.

There are five city norms, for preschools, general education schools, for general and special boarding schools, as well as for orphans. The values in UAH and the relative values (relative to the general education school norm) of five norms of budget needs in education, adopted by city of Kiev for 2007 and 2008, are provided in the following Table 1.15.

Table 1.15
Kiev Norms of Budget Needs in Education in 2007 and 2008

Normative of budget needs		2007		2008		Growth 2007–08
		Value	Relative	Value	Relative	
1	Preschool	4,665	177.9%	6,590	164.6%	41.3%
2	General secondary school	2,622	100.0%	4,003	100.0%	52.7%
3	Boarding school	11,963	456.3%	17,512	437.5%	46.4%
4	Special boarding school	16,295	621.5%	23,116	577.5%	41.9%
5	Orphanage	28,315	1,080.0%	42,099	1,051.7%	48.7%

Between 2007 and 2008, the value of the basic norm for general education school increased by 53 percent, while for preschools and special boarding schools by about 41 percent. This has led to some flattening of the structure (the differences between the norm for general secondary school and other norms decreased). When we compare with Table 1.32 in Annex A, we note that the Kiev preschool norm grew at about the same rate as the national preschool norm, but the Kiev secondary school norm grew much more than the corresponding national one.

It is quite interesting that the city decided not to define the financial norm for specialized schools (discussed extensively in the previous section), despite their higher costs due to higher teacher salaries¹³ and to enhanced curriculum. The reasons may lie in the larger average class size of these schools. As seen in Table 1.12, average class size is 23.8 students in regular school and 26 students in specialized school. At the same time, teachers earn 10 percent more. If per class expenditures were 10 percent higher in specialized schools, then given the larger class sizes their per student costs would be higher than in regular secondary schools only by 0.7 percent.¹⁴ It seems likely that the

Main Financial Department decided that this small difference does not warrant defining an additional financial normative.

The use of the city education normatives in the budgeting process is as follows. On the basis of the previous year's budget execution and taking into account the growth of input costs (teacher salaries, energy), the Main Finance Department sets the normatives for the following financial year. The normatives are then used to assess the needs of rayons, or more properly to set the recommendations to the rayon authorities about what they should be spending on education. The recommendations are obtained through a formula, in which for each group of education institutions identified by a separate financial normative (see Table 1.15), the number of students enrolled in education institutions of that group is multiplied by the appropriate normative and the resulting amounts are added. These recommended spending levels are then announced to the rayon authorities, who are, however, free to allocate to schools less or more than the recommendation. However, according to the Main Finance Department, in the few years of using the city financial normatives there is a tendency of rayons to adhere more closely to the recommendations, although rayons still decided to move funds between the different groups of education institutions. The recommended amounts are also used to assess the overall budget needs of rayons, and used to set the levels of personal income tax and land tax which stay at the rayon level (see Table 1.3).

In order to put the Kiev normatives into a national perspective, we compare the values of Table 1.15 with the national normatives for the same types of schools, using the formulas of Annex A and the coefficients of Table 1.33. As in Table 1.15, we provide the values in UAH as well as the values relative to the general education school allocation.

Table 1.16

National Per Student Values for Five Types of Students in 2007 and 2008

Normative of budget needs	2007		2008	
	Value	Relative	Value	Relative
1 Preschool	3,510	156.7%	4,989	172.0%
2 General secondary school	2,240	100.0%	2,901	100.0%
3 Boarding school	13,319	594.5%	17,245	594.5%
4 Special boarding school	17,580	784.8%	22,763	784.8%
5 Orphanage	31,964	1,426.9%	41,387	1,426.9%

The values in Table 1.16 are based on Annex A, with per student allocations for preschools being just the national normatives for preschools from Table 1.33. Per student allocations for other types of schools use the corrective coefficients in Table 1.29 as applied to the national secondary school normatives of Table 1.33 as follows:

- general education schools: coefficient $K_m = 0.841$, item 25 of Table 1.29
- general boarding schools: coefficient $K_t = 5$, item 10 of Table 1.29
- special boarding schools: coefficient $K_b = 6.6$, item 13 of Table 1.29
- orphans: coefficient $K_c = 12.02$, item 16 of Table 1.29

The comparison of Table 1.15 and Table 1.16 shows that the city normatives are usually but not always higher than the national per student allocation. The following Table 1.17 expresses Kiev normatives as percentage of the national per student allocations in 2007 and 2008.

Table 1.17

Kiev Normatives as Percent of National Per Student Values in 2007 and 2008

Normative of budget needs		2007	2008
1	Preschool	132.9%	132.1%
2	General secondary school	117.0%	138.0%
3	Boarding school	89.8%	101.6%
4	Special boarding school	92.7%	101.6%
5	Orphanage	88.6%	101.7%

We can now examine how these financial normatives defined by the city were in practice applied by the rayons, which as discussed before have significant although limited freedom in deciding on the budgets of individual schools. Indeed, it is exactly at the rayon level that the allocation of funds on the per student basis using the financial normatives must be reconciled with the specific required costs of each school, determined in part by the *komplectation* and *tarification* process, in part by other staffing norms and in part by the previous years' expenditures on heating, electricity, and similar material needs of the school.

We begin by providing in Table 1.18 the breakdown of the complete education budgets of the 10 Kiev rayons in 2007 into main budget lines. Budget codes for specific budget lines are provided in the comments following Table 1.18.

Table 1.18
Rayon Education Budgets in 2007 (UAH Million)

Rayon	Preschools	General secondary schools	Evening	General boarding schools	Orphanages	Special boarding schools	Extra school activities	Methodological work	Centralized accounting	Other	Total education
1 Golosiivskiy	36.3	61.7				7.8	2.5	0.4	1.8	9.0	119.5
2 Darnickiy	47.1	100.3			3.0	2.6	3.2	0.5	1.3	12.4	170.5
3 Desnanskiy	53.1	109.8	0.8				3.8	0.6	1.5	8.1	177.7
4 Dniprovskiy	58.4	107.4	0.5	2.4		5.1	3.0	0.8	1.8	4.9	184.3
5 Obolonskiy	51.9	86.1		5.6	4.2	5.2	5.5	0.8	2.2	2.1	163.7
6 Pecherskiy	15.2	44.4	0.2				2.0	0.4	0.8	6.1	69.2
7 Podilskiy	26.8	68.3	1.2	4.5		6.5	2.4	0.3	1.6	6.8	118.5
8 Svyatoshinskiy	48.2	103.8	0.7			7.8	7.4	0.7	3.0	5.0	176.5
9 Solomyanskiy	35.3	82.6	1.4	2.7		3.6	5.7	0.6	1.9	10.4	144.4
10 Shevchenkiskiy	32.2	73.6	3.6	6.6	2.7	1.9	2.7	0.5	1.4	19.4	144.5
Total	402.7	837.9	8.4	21.8	9.9	42.4	38.2	5.7	17.2	84.4	1,468.7

We first note that the rayons also pay for preschools (budget code 070101) and for the evening schools (budget code 070202), which were not discussed in detail in the previous section. A separate budget line of evening schools, with very small amounts, is probably an inheritance from the Soviet system where evening classes for workers were an important instrument of social advancement.

General secondary schools (budget code 070201) include expenditures on regular as well as on the specialized schools, gymnasia, lyceums, and colleges. Schools with preschools are also included here. There are separate budget lines for general boarding schools (budget code 070301), boarding schools for orphans (budget code 070302), and for special boarding schools (budget code 070304). This reflects a long standing tradition of Soviet education to create schools together with the boarding houses, and thus separate general boarding, disabled, or orphaned students from the rest. It is doubtful that such separation enhances the life chances of the students of these schools, even if the city invests in them. In recent years the city of Kiev is moving to end this practice,

beginning with the integration of orphaned students. Thus the number of students of these schools has declined considerably (only three such schools remain in Kiev). The city has a program to integrate also the students of general boarding schools, as the example of boarding school number three in Shevchenkiskiy rayon shows.¹⁵

The remaining identified budget lines represent expenditures which benefit all students, not just students of a specific category of schools. Extra school activities (budget code 070401) are mainly provided through rayon institutions with additional classes and non-obligatory courses (there are also two such city institutions, see the previous section). Methodological work (budget code 070802) includes expenditures on education quality, such as monitoring and visiting of schools, and accreditation of general education schools to grant them specialized status. Centralized education accounting (budget code 070804) is one of the key functions of the rayon education departments.

Table 1.19 provides the percentage structure of the rayon education budgets (we omit the percent sign for lack of space).

Table 1.19
Structure of Rayon Education Budgets in 2007 (Percent)

Rayon	Preschools	General secondary	Evening	General boarding schools	Orphanages	Special boarding schools	Extra school activities	Methodological work	Centralized accounting	Other	Total education
1 Golosiivskiy	30.3	51.6				6.6	2.1	0.3	1.5	7.5	100.0
2 Darnickiy	27.7	58.8			1.7	1.5	1.9	0.3	0.8	7.3	100.0
3 Desnanskiy	29.8	61.8	0.5				2.1	0.3	0.8	4.6	100.0
4 Dniprovskiy	31.7	58.3	0.3	1.3		2.8	1.6	0.4	1.0	2.7	100.0
5 Obolonskiy	31.7	52.6		3.4	2.6	3.2	3.3	0.5	1.3	1.3	100.0
6 Pecherskiy	22.0	64.2	0.3				2.9	0.6	1.2	8.9	100.0
7 Podilskiy	22.6	57.6	1.0	3.8		5.5	2.1	0.3	1.3	5.8	100.0
8 Svyatoshinskiy	27.3	58.8	0.4			4.4	4.2	0.4	1.7	2.8	100.0
9 Solomyanskiy	24.4	57.2	1.0	1.9		2.5	4.0	0.4	1.3	7.2	100.0
10 Shevchenkiskiy	22.3	50.9	2.5	4.6	1.9	1.3	1.9	0.4	1.0	13.4	100.0
Total	27.4	57.1	0.6	1.5	0.7	2.9	2.6	0.4	1.2	5.7	100.0

We note that the central rayons of Pecherskiy, Podilskiy, and Shevchenkiskiy spend about 22 percent of their total education budget on their preschools, while this share is over 30 percent in the peripheral rayons of Golosiivskiy, Dniprovskiy, and Obolonskiy. This suggests that the younger families with small children tend to settle or migrate to peripheral rayons, while the center of the city has slower population growth and birth rates. Evening schools are a very small expenditure item, with the exception of Shevchenkiskiy rayon, where they take up 2.5 percent of the education budget. In fact, the expenditures of Shevchenkiskiy rayon on evening schools are about 42 percent of these expenditures of all the rayons (see Table 1.18), indicating that evening schools are predominantly located there.

In order to analyze per student spending, we need to adopt the classification of schools reflecting the budget lines of Table 1.18. We thus divide the schools into general secondary schools, general and special boarding schools, and boarding schools for orphans. In particular, general secondary schools include regular and specialized schools, as well as schools with preschools.

The resulting numbers of students in each category, as well as the number of students in preschools and in evening schools, are provided in Table 1.20. Data on students in preschools and in evening schools were obtained from the Main Education Department.

Table 1.20
Students by Rayon and by Budget Categories in 2007

Rayon	Preschools	General secondary schools	Evening schools	General boarding schools	Orphanages	Special boarding schools
1 Golosiivskiy	5,930	17,811	66			523
2 Darnickiy	10,530	28,542	248		58	107
3 Desnanskiy	10,906	29,306	409			
4 Dniprovskiy	9,813	31,046	241	217		396
5 Obolonskiy	8,733	25,412		367	92	285
6 Pecherskiy	2,097	13,570	103			
7 Podilskiy	5,303	16,007	605	389		433
8 Svyatoshinskiy	10,013	27,976	418			466
9 Solomyanskiy	6,830	22,570	702	246		416
10 Shevchenkiskiy	5,450	19,694	1,634	560	85	133
Total	75,605	231,934	4,426	1,779	235	2,759

Thus we can calculate per student expenditures by these types of education institutions, comparing Table 1.18 and Table 1.20.

Table 1.21
Per Student Expenditures by Rayon and by Budget Categories in 2007

	Rayon	Preschools	General secondary schools	Evening schools	General boarding schools	Orphanages	Special boarding schools
1	Golosiiivskiy	6,121	3,464				14,914
2	Darnickiy	4,473	3,514			51,724	24,299
3	Desnanskiy	4,869	3,747	1,956			
4	Dniprovskiy	5,951	3,459	2,075	11,060		12,879
5	Obolonskiy	5,943	3,388		15,259	45,652	18,246
6	Pecherskiy	7,248	3,272	1,942			
7	Podilskiy	5,054	4,267	1,983	11,568		15,012
8	Svyatoshinskiy	4,814	3,710	1,675			16,738
9	Solomyanskiy	5,168	3,660	1,994	10,976		8,654
10	Shevchenkiskiy	5,908	3,737	2,203	11,786	31,765	14,286
	Total	5,326	3,613	1,898	12,254	42,128	15,368

Table 1.21 is very interesting and deserves some analysis. We first note that with the exception of general and special boarding schools, the average expenditures per student are much higher than the city normatives (see Table 1.16), as reviewed in Table 1.22. Please note that the city does not define the financial normative for evening schools, so it is omitted from the following table (however, the national formula has a specific correction coefficient for evening schools, see Table 1.29, item 23).

Table 1.22
Kiev Normatives and Average Per Student Expenditures in 2007

	Normative of budget needs	Kiev normatives	Actual average expenditures	Expenditures to normatives
1	Preschool	4,665	5,326	114.18%
2	General secondary school	2,622	3,613	137.78%
3	Boarding school	11,963	12,254	102.43%
4	Special boarding school	16,295	15,368	94.31%
5	Orphanage	28,315	42,128	148.78%

This discrepancy between the financial normatives and actual average expenditures may have been the reason for the large increase of the Kiev normatives for 2008, observed in Table 1.16. The normative for general secondary schools enjoyed the largest increase of 52 percent, which is in line with the general secondary schools being funded highest above the city normatives (if we discount the three small boarding schools for orphans). Indeed, we recall that the Main Financial Department of the city calculates the normatives on the basis of last year's expenditures, taking into account planned increases of the teacher salaries as well as inflation prognosis.

It is also useful to review the variation of per student expenditures across Kiev *rayons*.

Table 1.23

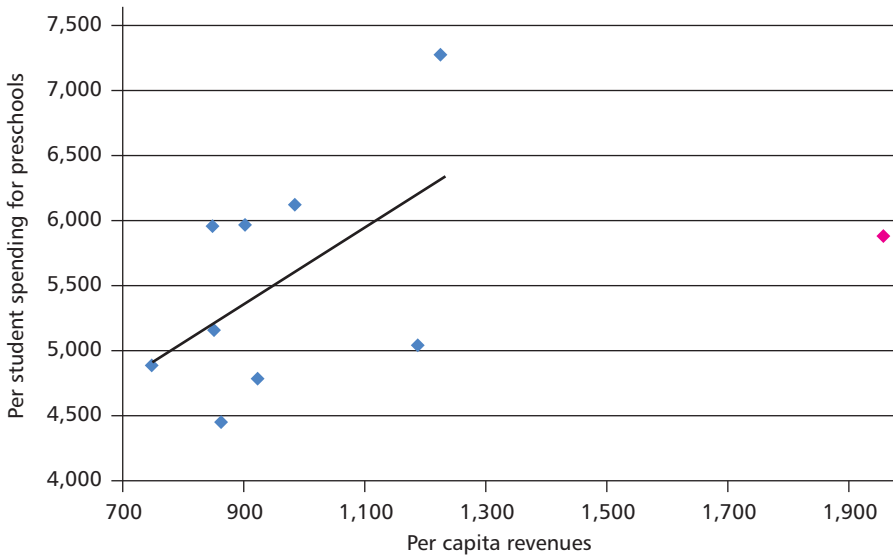
Cross Variation of Per Student Expenditures by Budget Categories in 2007, in Percent

Rayon	Preschools	General secondary schools	Evening schools	General boarding schools	Orphanages	Special boarding schools
1 Golosiivskiy	114.93	95.89				97.05
2 Darnickiy	83.98	97.27			122.78	158.12
3 Desnanskiy	91.41	103.71	103.06			
4 Dniprovskiy	111.73	95.76	109.32	90.25		83.80
5 Obolonskiy	111.58	93.79		124.52	108.37	118.73
6 Pecherskiy	136.09	90.57	102.31			
7 Podilskiy	94.88	118.11	104.51	94.40		97.68
8 Svyatoshinskiy	90.38	102.70	88.24			108.92
9 Solomyanskiy	97.03	101.30	105.08	89.57		56.31
10 Shevchenkiskiy	110.92	103.45	116.09	96.18	75.40	92.96
Total	100.00	100.00	100.00	100.00	100.00	100.00

We note excessive variation of per student expenditures for special boarding schools, indicating weakness of data. Interestingly, the variation for the remaining school types is more limited, due no doubt to the use of Kiev financial normatives as a benchmark for all the rayons. This is underlined by the fact that the evening schools, for which the financial normative has not been defined, exhibit larger variation in per student expenditures than general secondary schools (although lower than preschools). As altogether there are only 235 students in boarding schools for orphans in Kiev, we should focus on preschools and general secondary schools.

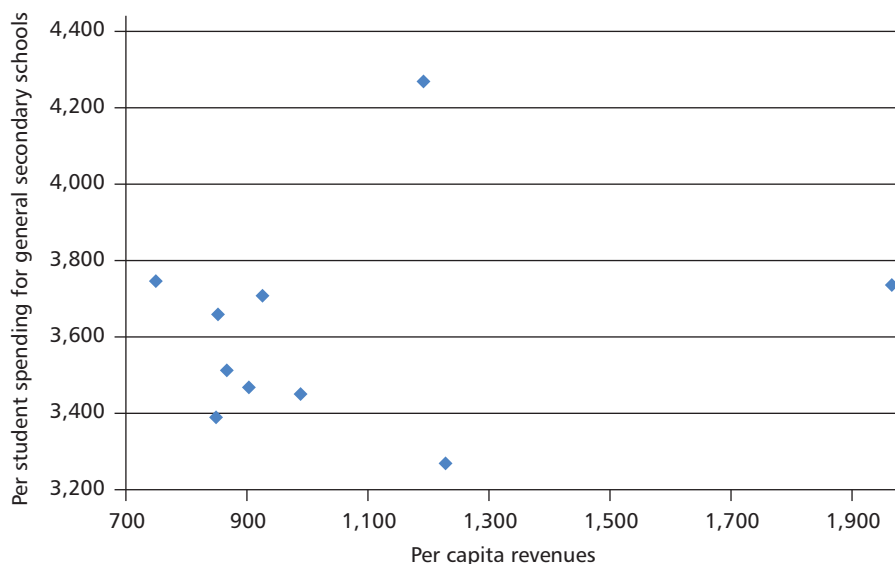
For preschools, average per student expenditure varies from UAH 4,473 in Darnickiy rayon (84 percent of the city average) to UAH 7,248 in Pecherskiy rayon (136 percent of the city average). There is a clear tendency for richer rayons to spend more for their preschools, despite the fact that the rich Podilskiy rayon spends relatively little. Without Shevchenkiskiy rayon, which is an outlier, the correlation coefficient between per student expenditures in preschools and per inhabitant rayon budget (see Table 1.1) is $R = 0.54$. This tendency is illustrated in the following Figure 1.5, where the rayons are located by their per inhabitant revenues (X axis) and by their per student expenditures for preschools (Y axis). Shevchenkiskiy rayon is marked with a dot.

Figure 1.5
Rayons with Per Capita Revenues and Per Student Spending for Preschools



For general secondary schools, average per student spending varies from UAH 3,272 (91 percent of the city average) to UAH 4,267 (118 percent of the city average). There is no tendency for richer rayons to spend more per student, as Figure 1.6 shows.

Figure 1.6
Rayons with Per Capita Revenues and Per Student Spending for
General Secondary Schools



Indeed, we note that lowest per student expenditures are in the very rich Pecherskiy rayon, while Shevchenkiskiy rayon, by far the richest, spends less per student than Desnanskiy rayon, the poorest one. However, we note that per student spending for general secondary schools is remarkably uniform across rayons. If we exclude the two extreme cases of Podilskiy and Pecherskiy rayons, we see that all the remaining rayons spend between UAH 3,400 and UAH 3,800 per student, less than 12 percent difference.

We conclude this discussion by stating that the situation of financing preschools and general secondary schools by the rayons is quite different. For preschools, there is a tendency for richer rayons to pay more, with the outlying Shevchenkiskiy rayon paying 111 percent of the city average. For the general secondary schools, there is a significant degree of uniformity in the level of per student financing across rayons. As both preschools and general secondary schools are the property of the rayons, and since for both of them the city defines its financial normatives of budget needs, it would be interesting to find the reasons for these differences.

As per student expenditures strongly depend on the class size, and as we know from Table 1.12 that class sizes of schools across the rayons vary significantly, it makes sense to review per class expenditures of the rayons. This data item more accurately reflects the teaching effort of the schools. We limit our analysis to general secondary schools, because we have no access to the number of groups in preschools, the data for general and special boarding schools are unreliable (see discussion following Table 1.23), and

the number of students in evening schools and in orphanages is too small for statistical analysis.

Table 1.24 provides the average per class expenditures by rayons, in UAH and relative to city average. Recall that general secondary schools include, under the classification used in Section 2, regular and specialized schools and schools with preschools. Therefore as the number of classes in general secondary schools, we take the number of classes provided in Table 1.11 without the boarding schools.

Table 1.24
Per Class Expenditures on General Secondary Schools by Rayons

Rayon	Per class expenditures (UAH)	Relative per class expenditures
1 Golosiivskiy	89,291	97.7%
2 Darnickiy	94,712	103.7%
3 Desnanskiy	87,770	96.1%
4 Dniprovskiy	90,101	98.6%
5 Obolonskiy	85,586	93.7%
6 Pecherskiy	85,714	93.8%
7 Podilskiy	105,077	115.0%
8 Svyatoshinskiy	96,648	105.8%
9 Solomyanskiy	89,491	97.9%
10 Shevchenkiskiy	91,202	99.8%
Total	91,364	100.0%

We note that the variation between the rayons in per class expenditures in general secondary schools are rather small, less than the variation of per student expenditures (compare Table 1.23). Nevertheless, a number of open questions remain, of which the main one is why the relatively rich Pecherskiy rayon should spend less per class than the relatively poor Svyatoshinskiy rayon.

We now turn to the remaining education expenditures of the rayons, which are not linked to specific school types but benefit all students. In the following Table 1.25, we provide per student expenditures on extracurricular activities, on methodological work, and on centralized education accounting by rayons, in UAH per student, as well as values relative to the city average. It is important to remember that these budget lines have a very small share in rayon budgets, with extracurricular activities at 2.6 percent of overall rayon education expenditures, methodological work at 0.4 percent and centralized accounting at 1.2 percent (see Table 1.19).

Table 1.25
Per Student Expenditures on Selected Non-school Functions

	Rayon name	Extra curriculum		Methodological work		Centralized accounting	
		Actual	Relative	Actual	Relative	Actual	Relative
1	Golosiivskiy	102.8	85.2%	16.4	91.4%	74.0	136.2%
2	Darnickiy	81.0	67.2%	12.7	70.4%	32.9	60.6%
3	Desnanskiy	93.5	77.6%	14.8	82.1%	36.9	68.0%
4	Dniprovskiy	71.9	59.6%	19.2	106.6%	43.2	79.5%
5	Obolonskiy	157.6	130.7%	22.9	127.4%	63.1	116.1%
6	Pecherskiy	126.8	105.2%	25.4	140.9%	50.7	93.4%
7	Podilskiy	105.6	87.5%	13.2	73.3%	70.4	129.6%
8	Svyatoshinskiy	190.4	157.8%	18.0	100.1%	77.2	142.1%
9	Solomyanskiy	185.3	153.6%	19.5	108.4%	61.8	113.7%
10	Shevchenkiskiy	98.0	81.2%	18.1	100.8%	50.8	93.6%
	Total	120.6	100.0%	18.0	100.0%	54.3	100.0%

The funds for extracurricular activities, although not very significant in the budgets, reflect well the education priorities of the rayons because they are not governed by strict norms and regulations operating in schools, including the financial normatives. Per student expenditures vary from UAH 72 in Dniprovskiy rayon (at 60 percent of the city average) to UAH 190 in Svyatoshinskiy rayon (157 percent of city average). This is a very significant difference which raises questions about the quantity and quality of services provided by rayons to their students. Interestingly, the rich central rayons of Podilskiy and Shevchenkiskiy spend well below the city average, while Pecherskiy rayon just above this average. This may reflect the fact that city extracurricular institutions are predominantly located in the central rayons, so pupils from these schools can use the services of city institutions and thus the demand for rayon institutions is limited. However, it seems more likely to be an indication of rayon priorities.

Per student expenditures on methodological work are somewhat less varied across rayons, ranging from 70 percent to 141 percent of the city average, with Pecherskiy rayon spending most on a per student basis and as proportion of its total education budget (Table 1.19).

We also note that Desnanskiy rayon, which for over 18 years has decentralized accounting to the school level, spends relatively little on centralized accounting at 68 percent of the city average. This may be accounting of preschools and extracurricular

activities. However, Darnickiy rayon, which does not have decentralized accounting to schools, spends even less at 61 percent of the city average. Since in Desnanskiy rayon all schools have at least one, and very often two accountants, we should have expected that expenditures on centralized education accounting there would be minimal. The available evidence seems to suggest that decentralization of accounting to schools, although it may bring schools some operational advantages, is not an efficient solution.

Finally, we discuss education investments in the rayons. Table 1.26 provides the investments separately from the general fund and from the special fund of the budget.

Table 1.26
Education Investments by Rayon (UAH Million)

Rayon	Investments from the general fund	Investments from the special fund	Total investments
1 Golosiivskiy	0.10	5.05	5.15
2 Darnickiy	1.22	7.18	8.40
3 Desnanskiy	3.19	8.70	11.89
4 Dniprovskiy	0.63	7.18	7.81
5 Obolonskiy	4.09	6.13	10.22
6 Pecherskiy	2.26	2.59	4.85
7 Podilskiy	3.51	6.09	9.60
8 Svyatoshinskiy	1.69	7.04	8.73
9 Solomyanskiy	0.02	6.43	6.45
10 Shevchenkiskiy	10.00	6.39	16.39
Total	26.71	62.78	89.49

It is clear that while investments from general funds vary widely across rayons, from UAH 20,000 in Solomyanskiy rayon to UAH 10,000,000 in Shevchenkiskiy rayon, the range of investment from special funds is much smaller. This is better analyzed in the following Table 1.27, where we review these investments per student. Since we include preschool investments as well (see Table 1.6), for each rayon we take the number of students from Table 1.20, including the students of secondary schools (as in Table 1.8), of preschools and of evening schools.

Table 1.27
Education Investments Per Student by Rayon (UAH)

	Rayon	Investments from the general fund	Investments from the special fund	Total investments
1	Golosiivskiy	4.1	207.6	211.7
2	Darnickiy	30.9	181.8	212.7
3	Desnanskiy	78.5	214.2	292.7
4	Dniprovskiy	15.1	172.1	187.2
5	Obolonskiy	117.2	175.7	292.9
6	Pecherskiy	143.3	164.2	307.5
7	Podilskiy	154.4	267.8	422.2
8	Svyatoshinskiy	43.5	181.1	224.6
9	Solomyanskiy	0.7	209.0	209.7
10	Shevchenkiskiy	362.9	231.9	594.8
	Total	84,3	198.2	282.5

We note that per student investment from special funds is remarkably uniform across rayons, oscillating around the average value of UAH 198 per student, with the highest value in Podilskiy and the lowest in Pecherskiy. We thus see that the city allocates carefully its limited investment funds across rayons. However, per student investment from general funds oscillates widely, with highest values for the rich central rayons of Shevchenkiskiy, Podilskiy, and Pecherskiy, and with Obolonskiy as a close fourth. Thanks to the equalizing effect of education subventions, total per student investments are less varied, between UAH 187 in Dniprovskiy and UAH 595 in Shevchenkiskiy rayon.

We recall from Annex B the difference in the two types of investments. Investments from the general fund are financed from tax revenues of the rayons, so they reflect their wealth as well as their own priorities and preferences. The investments from the special funds are typically financed by subventions. To see this in detail, in Table 1.28 we provide investments as share of total education expenditures of the rayon, investments from the special fund as percentage of received education subventions (as listed in Table 1.6), and share of education investments from the general fund in total education investments of the rayon.

Table 1.28
Education Investments Indicators by Rayon

Rayon		Investments as percent of total education expenditures	Investments from the special fund as percent of received subventions	Investments from the general fund as percent of all investments
1	Golosiivskiy	4.3%	102.1%	1.9%
2	Darnickiy	4.9%	100.2%	14.5%
3	Desnanskiy	6.7%	101.9%	26.8%
4	Dniprovskiy	4.2%	114.4%	8.1%
5	Obolonskiy	6.2%	100.3%	40.0%
6	Pecherskiy	7.0%	103.4%	46.6%
7	Podilskiy	8.1%	101.7%	36.6%
8	Svyatoshinskiy	4.9%	95.5%	19.4%
9	Solomyanskiy	4.5%	104.3%	0.3%
10	Shevchenkiskiy	11.3%	100.1%	61.0%
Total		6.1%	102.2%	29.8%

We first observe that investments from the special fund are almost equal to the received education subvention, including funds for computerization. The only exception is Dniprovskiy rayon, which has some extra funds for this purpose in the special fund, and Svyatoshinskiy rayon, which strangely spends less than the received categorical subvention (it is possible that they do not record funds spent on computers as investments).

If education investments from the general fund are free decisions of the rayon council, then we clearly see from Table 1.28 that the three rich central rayons of Shevchenkiskiy, Pecherskiy, and Podilskiy spend a lot of their own money in the sector. Shevchenkiskiy rayon alone spends over 37 percent of all education investments from the general grant, which shows that it is indeed relatively very rich. Its overall education investments are over 11 percent of its total education budget, a very high figure. However, we note that Obolonskiy rayon with 40 percent of education investments coming from the general fund, and to a lesser extent also Desnanskiy rayon with 27 percent, are making a very serious effort to improve their education system. And this is especially striking since these are the two poorest rayons, as seen in Table 1.1.

We can conclude that while recurrent expenditures are relatively uniform across the rayons, especially as regards general secondary schools, the situation with investments is quite different. The three education subventions from the city budget to rayons only

partially offset the large differences in rayon wealth, which are clearly visible in their per student education investments from the general fund. However, the examples of the Obolonskiy and Desnanskiy rayon show that even poor rayons, with strong commitment to education, can make an effort to improve conditions in their schools.

CONCLUSIONS

Two basic features should characterize strong, autonomous, democratically elected local self-governments in the delivery of public services:

- the revenues of their budgets depend on work and efforts of their citizens, and
- the services financed from these revenues are provided to their own citizens.

Only when the two conditions are met can we say that the local government is responsible to their electorate for how they use their taxes for their benefit.

In the case of Kiev rayons, as we have analyzed in the present report, neither of these two conditions are met:

- the rayon revenues are largely determined by the city council, which every year decides what percentages of personal income tax and of land tax stay in the rayon budget, separately for each rayon (see Table 1.3), and
- the natural movement of students between rayons, especially to specialized schools, means the services managed and financed by the rayons are often delivered to citizens of other rayons (see Table 1.14).

Thus from the financial and organizational point of view, Kiev schools form one education system, not ten separate education systems in the rayons. Accordingly, the management and financing of this one single system should be uniform across the rayons, subordinated to a clearly formulated education strategy of the city.

Some elements of such a citywide education strategy are already visible in Kiev, and may be listed as follows:

- 1) A number of centrally designed, planned, and executed investment programs (see Table 1.6).
- 2) Kiev addition to the salaries of all teachers (20 percent above the national pay scale).
- 3) Five financial normatives of budget need in education.
- 4) Creation of the Monitoring Center of Kiev Education and publication of first analyses on education quality.¹⁶

- 5) Additional subjects in Kiev schools, including *Christian Ethics in Ukrainian Literature* (grades two to four) and *My Kiev* (grade seven), taught in schools on the basis of textbooks published by the city.¹⁷

All these steps show that the city is undertaking a serious long-term effort to improve Kiev education and to adapt it to its needs.

However, there remains a frustrating mismatch between the need for a uniform education strategy and the independent rayon administrations with their exclusive responsibility for rayon schools. The Main Education Department should perform the following functions in the system:

- 1) *Make key decisions in the budgeting process in the area of education.* Decide on the allocation of funds for education (at least at the rayon level), monitor the transfer of these funds to education institutions, and measure the effectiveness of their use.
- 2) *Maintain a comprehensive database of all education institutions, including their students, staff, facilities, education results, and finances.* This database should be fully available to the rayon Education Departments, and at least in part to the Kiev population.
- 3) *Ensure equal treatment of students in all the rayons independently of their relative wealth.* This includes monitoring access to education, analysis of education quality (the task performed by the Center of Monitoring of Kiev Education), and controlling the differences in per student and per class expenditures of rayons.

Maybe the first step should be the involvement of the Main Education Department in the design, calculation, and implementation of the city financial norms of budget needs in education. It is of great interest that the city of Kiev adopts five such norms and adjusts them from year to year. First, there is no need for the city to do this, as the Decision 1195 defines the financial norms every year for the whole country.¹⁸ Defining their own education norms, the Kiev authorities show that they take their responsibility for education process in the city seriously, and create a tool for expressing their own education strategy. In Section 3, we described the formula used by the Main Finance Department which assesses the recommended levels of education spending of rayons on the basis of these norms.

Second, the decision to use more norms than are used in the national formula (five norms in the place of just two) shows that the city has conducted an independent analysis of what instruments best serve its needs.¹⁹ Although one can discuss the necessity of some of these norms (the norm for boarding schools for orphans applies to three schools and 171 students, the norm for general boarding schools

applies to six schools with 1,314 students), they represent a potentially useful tool to ensure horizontal equity of education finance.²⁰

There are nevertheless some problems related to the use of city financial normatives:

- 1) The city normatives are a policy instrument but are not widely known or understood in the city apparatus. Even in the Main Education Department it is difficult to find people who know how the normatives are defined and used. The actual values of the normatives appear only in the justification of the Kiev city budget and are not accessible after the adoption of the budget. Some school directors are unaware of them at all.²¹
- 2) The normatives are internally designed and calculated by the Main Finance Department, without collaboration and input from the Main Education Department. It thus seems that the key policy instrument in education is not linked to any education policy of the city.
- 3) The calculation of the normatives is defined as routine prolongation of last year's expenditures and is performed by the Main Finance Department without independent verification. This leaves no place for policy analysis of what the normatives should be like, for example, how should their relative values change. It also exposes the values of the normatives to the impact of own budgetary action of the rayons.²²
- 4) The number of normatives and the method of setting them are not defined in official public documents of the city. Thus, the Main Finance Department may at any moment change the structure of the normatives or change the system of calculating it, undermining the stability of the system and the functioning of the normatives.
- 5) The normatives are used only in the preparation of the budget and are forgotten afterwards. They are not used in monitoring the execution of the budget or in the analysis of the completed budget. Thus, there is no feedback from the critical review of actual budgeting practice.

These problems of defining and using the normatives have an impact on actual budget formation and execution. As our analysis of rayon education budgets in section 3 shows, city financial normatives are not adhered to in the rayons (see Table 1.22), and the uniformity of financing levels between the rayons, either on a per student basis (Table 1.23) or on a per class basis (Table 1.24), has not been fully achieved. Moreover, it is an important question whether the relative wealth of the rayons, as indicated by their per capita revenues (see Table 1.1), influences per student spending in education. Such an influence implies horizontal inequity of education finance in Kiev. The situation, as reviewed in section 3, is mixed: such influence appears for preschools (see Figure

1.5), but not for general secondary schools (see Figure 1.6). It seems therefore that the city had more success in controlling recurrent expenditures in secondary schools than in preschools, although the reasons for this difference remain obscure. An even more difficult situation exists with respect to education investments. Investment from special funds, governed by education subventions from the city to rayon budget, is quite uniform across rayons (see Table 1.27). However, investment from the general fund is extremely unequal and reflects wealth differences between the rayons.

The city needs to develop its own criteria of which differences in class sizes, teaching hours, student teacher ratios, and per student and per class education expenditures across schools and rayons are acceptable, and which need to be addressed with specific interventions. This requires the ability to monitor the performance of the education system and also the ability to take effective action.

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Council of Kiev City, *Resolution No. 531/588 of December 28, 2006, Regarding the Budget of Kiev City for 2007*, Kiev 2006

Council of Kiev City, *Draft Budget of Kiev City for 2008 with Justification*, Kiev 2007

Council of Pecherskiy Rayon, *Resolution No. 39 of December 29, 2006, Regarding the Budget of Pecherskiy Rayon for 2007*, Kiev 2006

Council of Podilskiy Rayon, *Resolution No. 126 of January 18, 2007, Regarding the Budget of Podilskiy Rayon for 2007*, Kiev 2007

Council of Shevchenkiskiy Rayon, *Resolution No. 128 of December 29, 2006, Regarding the Budget of Shevchenkiskiy Rayon for 2007*, Kiev 2006

Council of Solomyanskiy Rayon, *Resolution No. 112 of December 29, 2006, Regarding the Budget of Solomyanskiy Rayon for 2007*, Kiev 2006

Council of Svyatoshinskiy Rayon, *Resolution No. 66 of December 29, 2006, Regarding the Budget of Svyatoshinskiy Rayon for 2007*, Kiev 2006

Sources of Statistical Data

The following sources of statistical and budget data were used in the report:

- ZNZ database of city education institutions. This is a Fox Pro database used by the Main Education Department. Excel export znzrab.xls was used. ZNZ database is used only for purposes of statistical reporting.
- Koshtoris.xls, the data files from all the *rayons* with complete budget of schools.
- The number of preschools and evening schools and their students by *rayon* were provided by Main Education Department of Kiev.

ANNEX A

Budget Code Formulas for Normative Education Expenditures

The Budget Code of Ukraine of June 21, 2001 demands, in its Article 98, paragraph 3, that the Cabinet of Ministers adopts a formula to define the volume of inter-budget equalization transfers. That formula was adopted in the Resolution of Cabinet of Ministers No. 1195 of September 5, 2001. The formula underwent a number of changes over the years.²³

The overall structure of the formula is based on a comparison of normative revenues and normative expenditures of each level of government. If the normative expenditures are higher than the normative revenues, the local government receives an equalization grant, proportional to the difference between the two. If the normative revenues are higher, the local government will pay into the equalization system a proportion of the difference.

Normative expenditures are calculated separately for a number of sectors, see Article 13:

- maintenance of local authorities,
- health (hospitals, general and specialized clinics),
- education (all education with the exception of extracurricular education),
- social protection (orphanages, social benefits, housing subsidies, fare subsidies for veterans and the elderly),
- culture and arts (libraries, museums),
- physical culture and sports (recreation centers, sport events, youth sport academies),
- other expenditures.²⁴

Some expenditure responsibilities of local governments are not included in the calculation of intergovernmental transfers: local fire protection, local programs in the sphere of social protection, sport and culture, housing and utilities services, transport and communications, construction, and debt service (see Anglichanov et al. 2008).

For education, there are three separate formulas for normative education expenditures depending on the level and type of local government, namely oblasts and the Autonomous Republic of Crimea (ARC) (Article 23), for *rayons* and cities of oblast status²⁵ or of ARC status (Article 24), and for the city of Kiev and city of Sevastopol (Article 25).

The formula for the oblasts and ARC for 2007 takes the form:

$$V_o = H_o \cdot (U_o \cdot K_{ob} + U_f \cdot K_f + U_w \cdot K_w + U_{gt} \cdot K_{gt} + U_t \cdot K_t + U_{si} \cdot K_{si} + U_{gz} \cdot K_{gz} + U_z + U_h \cdot K_h + U_{gb} \cdot K_{gb} + U_d \cdot K_d + U_c \cdot K_c) + V_{ark} + S_{sst} + S_{st} + S_{gd} + V_{lviv} + V_{charkiv}$$

Here H_o is the financial normative for budget needs of one student, discussed in Table 1.32, and other symbols and coefficients are defined in the following Table 1.29 and Table 1.30. The formula for *rayons* and for *oblast* and ARC status cities in 2007 takes the form:

$$V_o = H_d \cdot (D_m \cdot K_{nm(r)} + D_{gm} \cdot K_{gnm(r)} + D_s \cdot K_{nm(r)} + D_{gs} \cdot K_{gnm(r)}) + H_o \cdot (U_{gm} \cdot K_{gm} + U_{gmr} \cdot K_{gmr} + U_{gs} \cdot K_{gs} + U_m \cdot K_m + U_{mr} \cdot K_{mr} + U_s \cdot K_s + U_{bm(r)} \cdot K_{bm(r)} + U_{jm(r)} \cdot K_j + U_f \cdot K_f + U_w \cdot K_w + U_{gt} \cdot K_{gt} + U_t \cdot K_t + U_{gz} \cdot K_{gz} + U_z + U_c \cdot K_c) + S_d + S_{gd} + V_{tzn(r)}$$

Here H_o is the financial normative for budget needs of one student, and H_d is the financial normative for budget needs of a preschool child (see Table 1.32). Coefficients $K_{nm(r)}$ and $K_{gnm(r)}$ represent actual percentages of children attending preschools, not located and located in the mountains, and are established for 2008 separately for each local government unit in Ukraine. Other symbols and coefficients are defined in Table 1.29 and Table 1.30.

The formula for the cities of Kiev and Sevastopol for 2007 takes the form:

$$V_{okiyiv(sev)} = H_d \cdot (D_{mkiyiv(sev)} \cdot K_{nm} + D_{ssev} \cdot K_{nm}) + H_o \cdot (U_{kiyiv(sev)} \cdot K_m + U_s \cdot K_s + U_{bkiyiv(sev)} \cdot K_j + U_o \cdot K_{ob} + U_f \cdot K_f + U_t \cdot K_t + U_{si} \cdot K_{si} + U_z + U_h \cdot K_h + U_d \cdot K_d + U_c \cdot K_c) + S_d + S_{sst} + S_{st} + S_{gd} + V_{kiyiv} + V_{tznkiyiv(sev)}$$

Table 1.29 lists all the factors depending on the financial normative of budget needs (for students and for preschoolers) used in the three formulas. It provides explanations of the factors used and the values of correcting coefficients.

Table 1.29
Factors and Coefficients of Allocation Formulas

Symbol	Meaning	Coefficient
1 D_m	Children aged 0-6 in cities not located in the mountains (also for the cities of Kyiv and Sevastopol)	Based on actual preschool enrollment, see above.
2 D_{gm}	Children aged 0-6 in cities located in the mountains	
3 D_s	Children aged 0-6 in villages not located in the mountains (also for rural schools in the city of Sevastopol)	
4 D_g	Children aged 0-6 in villages located in the mountains	
5 U_o	Students of all schools on the territory of ARC, oblast, city of Kiev and city of Sevastopol (as applicable)	$K_{ob} = 0.092$
6 U_f	Students, not including the orphans, ²⁶ of general boarding schools with increased military-physical education	$K_f = 6.5$
7 U_w	Students, not including orphans, of Olympic sport schools and sport boarding schools	$K_w = 8.4$
8 U_{gt}	Students, not including the orphans, of general boarding schools located in the mountains	$K_{gt} = 5.7$
9 U_{gz}	Day students ²⁷ of general boarding schools located in the mountains	$K_{gz} = 1.1$
10 U_t	Students of general boarding schools (excluding schools with increased military-physical education, sanatorium boarding schools, and orphans)	$K_t = 5$
11 U_{si}	Students of general sanatorium boarding schools, not including orphans	$K_{si} = 5.4$
12 U_z	Day students of general boarding schools	treated as 1
13 U_b	Students, not including orphans, of special boarding schools not located in the mountains	$K_b = 6.6$
14 U_{gb}	Students, not including orphans, of special boarding schools located in the mountains	$K_{gb} = 7.5$
15 U_d	Day students of special boarding schools	$K_d = 2.5$
16 U_c	Orphan students fully supported by the state	$K_c = 12.02$
17 U_{gm}	Students of day general secondary schools in cities of oblast status located in the mountains	$K_{gm} = 0.968$
18 U_{gmr}	Students of day general secondary schools in cities located in the mountains	$K_{gmr} = 1.064$

19	U_s	Students of general day secondary schools located in villages not located in the mountains	See Table 1.31.
20	U_{gs}	Students of day general secondary schools located in villages located in the mountains	
21	U_m	Students of day general secondary schools in cities of oblast status not located in the mountains	$K_m = 0.841$
22	U_{mr}	Students of day general secondary schools in cities not located in the mountains	$K_{mr} = 0.926$
23	$U_{bm(r)}$	Students of evening schools in cities (also in the cities of Kyiv, and Sevastopol) K_{bm} and in rayons K_{br}	$K_{bm} = 0.43$ $K_{br} = 0.29$
24	$U_{jm(r)}$	Special schools (special needs students), in cities, rayons, Kyiv and Sevastopol	$K_j = 2.5$
25	$U_{kyiv(sev)}$	Students of non-rural schools in cities of Kyiv and Sevastopol	$K_m = 0.841$

In the three formulas, a number of elements represent lump allocations, calculated according to separate rules and not depending on the number of students. They are listed in Table 1.30.

Table 1.30

Lump-sum Elements of Allocation Formulas, Calculated According to Separate Rules

Symbol	Meaning
1 V_{ark}	Funds for preparation of staff of universities in ARC
2 S_{sst}	Additional 2007 allocation for stipends for university students
3 S_{st}	Additional 2007 allocation for support for purchase of textbooks for some university students
4 S_{sg}	Additional 2007 allocation for financial support to orphans who have completed the school are employed for the first time
5 V_{lviv}	Funds for preparation of staff of PTU in city of Lviv
6 $V_{charkiv}$	Funds for preparation of staff of PTU in city of Charkiv
7 S_d	Additional 2007 allocation for financial support to orphans over 18
8 $V_{rzn(r)}$	Targeted funds for ensuring modern technical equipment for teaching natural, mathematical, and technological subjects in rayon schools
9 $V_{rznkyiv(sev)}$	Targeted funds for ensuring modern technical equipment for teaching natural, mathematical, and technological subjects in Kiev and Sevastopol schools

The values of the coefficient K_s for students in village schools not located in the

mountains and of the coefficient K_{gs} for mountain rural schools depend on the average class size, as listed in Table 1.31.

Table 1.31
Values of the Coefficient for Rural Schools

Average class size in the municipality		Coefficient of rural schools	
		not located in the mountains K_s	located in the mountains K_{gs}
1	above 22.2	1.010	1.162
2	from 17.8 to 22.2	1.178	1.355
3	from 14.8 to 17.8	1.305	1.500
4	from 11.7 to 14.8	1.431	1.645
5	below 11.7	1.684	1.936

The values of the two financial normatives of budget needs for 2007 and 2008 are provided in following Table 1.32.

Table 1.32
Financial Normatives of Budget Need (UAH)

The financial normative of budget needs		Fiscal year 2007	Fiscal year 2008	Percent change from 2007 to 2008
1	Preschool	3,510.4	4,989.2	42.1%
2	Secondary school	2,663.7	3,448.9	29.5%

We see that between 2007 and 2007 the financial normative of budget needs of preschool student grew by over 40 percent, while of secondary school student grew by less than 30 percent. As a result, in 2008 the preschool normative is 45 percent higher than the secondary school normative, while in 2007 it was only 132 percent higher.

Finally, for an understanding of the degree of year to year changes in the three formulas, we comment on the formulas for 2004 and for 2008:²⁸

- The formulas in 2003 had the same structure and coefficients as the formula for 2007, described above, except for the following differences:
 - For preschools, there was no distinction between the rural and city preschools.

- The value of the coefficient K_{ob} (item 5 of Table 1.29) was $K_{ob} = 0.072$.
- In place of the coefficient $K_{ob} = 12.02$ for orphans, irrespective of the type of the school which they attend (item 16 of Table 1.29), the 2003 formula used a coefficient $K_p = 10$ specifically for boarding schools for orphans. Additionally, the formula used coefficient $K_c = 13$ for homes for children, $K_{cg} = 14.8$ for homes for children located in the mountains, and $K_a = 6.5$ for homes of children of family type.
- The formulas in 2008 are essentially exactly as in 2007, but the value of the coefficient K_{ob} (see item 5 of Table 1.29) was decreased to $K_{ob} = 0.072$.

ANNEX B

General and Special Funds in Ukrainian Budget System

According to the Ukrainian budget classification (Budget Code, Article 13), the budget is divided into the *general* and *special* fund, both on the revenue side and on the expenditure side, and the two parts of the budget need to be balanced (see: Anglichanov et al. 2008).

Overall, the general fund includes taxes and some other revenues. It is designed for delegated expenditure responsibilities (these are the expenditures included in the calculation of intergovernmental transfers, see Annex A).

The special fund includes targeted grants (subventions) for investments and own revenues of local governments (dividends, sale of property, revenues from capital, rent of municipal properties, own revenues of local institutions, borrowings). See, for example, Table 1.6. The main purpose of the special fund is to finance the so-called *development budget* (Budget Code, Article 71), which is mainly investment programs and contributions of local budgets to equity of communal enterprises.

Regarding municipal debt, the general fund is used to pay the interest, while the special fund is used to pay back the principal debt amount.

It is possible to define a transfer from the general fund to the special fund part of the budget, but not in the other direction. In this case, the appropriate amount appears as revenues in the special fund under the budget code (“other revenues”), and also as expenditures in the general fund of the budget, under the budget code. This accounting convention allows to correctly verify whether the budget is balanced separately in the general fund and in the special fund. At the same time, however, it has the effect of inflating the budgets by the amount of the transfer from the general to the special fund, as the following example shows.

Suppose for simplicity that the general revenues of a city are UAH 10 million (from personal income tax), and special revenues of the city are UAH two million (from sale of land), and the city decided to transfer one UAH million to the special fund for development funds (investments). The actual total revenues and expenditures of the city are of course equal to UAH 12 million. However, in the budget we will see the tax revenues of 10 million in the general fund, and we will see the revenues of UAH three million in the special fund (UAH two million from sale of land and UAH one million in “other” category from the internal transfer). Thus the overall revenues recorded in the budget will be UAH 13 million.²⁹

NOTES

- ¹ Because the analysis of the present report is for fiscal year 2007, budget data and education statistical data used in Table 1.1 and below are for 2007. However, population data are from 2006 (SSO 2007). The budget documents with budget data and the sources of statistical data used in the report are listed in the references. The exchange rate of the euro to the Ukrainian *hryvna* on June 30, 2007, was EUR 1 = UAH 7.10.
- ² Only the peripheral *rayon* Golosiivskiy (1) has the population similar to that of Shevchenkiskiy.
- ³ The city is responsible only for professional schools PTU, a few universities, and just a few secondary schools (see Section 2).
- ⁴ See Annex B for a review of general and special funds of Ukrainian budgets.
- ⁵ I have not seen any documents describing this methodology. It seems likely that the Main Finance Department is using the formulas adopted by the Ministry of Finance in its Decision 1195, recalled in Annex A. It is also possible that the Main Finance Department is using the city financial normatives discussed in Section 3.
- ⁶ Here, it is important to stress that the secondary schools, in Ukrainian terminology inherited from the Soviet Union, are the schools including grades one to eleven (to twelve in the next school year).
- ⁷ However, there is a growing number of so-called *education-caring complexes*, which are schools with preschools in which the education extends beyond the first four grades. We classify the two types together.
- ⁸ It is worth pointing out that the 10-percent increase of salaries in “new type schools” has been inherited from the Soviet Union, and appears in many post-Soviet countries, including Lithuania, see Herczyński (2008).
- ⁹ In the late 1990s, a large number of preschools were closed due to demographic decline and financial uncertainty. Some facilities were presumably converted into schools with preschools.
- ¹⁰ Recall that these schools have predominantly grades one to four.
- ¹¹ We use the language of demographic migrations for simplicity, even though of course children do not change the place of residence, but only the school.
- ¹² Available statistical databases provide either the break down by *rayon*, or by age, see, for example, SSO 2007.
- ¹³ Recall that teachers of these schools receive 10-percent higher salaries.
- ¹⁴ The calculation is as follows: $1.1 \cdot 23.8 / 26 = 1.007$.
- ¹⁵ On the other hand, integration of special needs students is a more difficult process requiring a more active role (regulations, training, changes in financing) from the national ministry of education.
- ¹⁶ See Monitoring Center of Kiev Education (2007).

- ¹⁷ These subjects are in addition to the curriculum mandated by the Ministry of Education. Funds required for these subjects are included in city financial normatives. *My Kiev* covers history and geography of the city.
- ¹⁸ See Cabinet of Ministers (2001).
- ¹⁹ See, for example, the discussion of a possible normatives for specialized schools in Section 3.
- ²⁰ Horizontal equity means creating similar conditions and opportunities for students in similar schools, irrespective of school location.
- ²¹ This assessment is made on the basis of a few interviews with directors of Kiev schools.
- ²² If a few rayons increase their expenditure on a specific type of school, then next year's normatives will automatically be increased by the corresponding margin, independently of the plans and strategies at the city level.
- ²³ In fact, there were between one and three amendments in each year from 2001 to 2007; however, the education part of the formula remained relative stable. See below the changes introduced since 2003.
- ²⁴ Other expenditures include funds for social-economic development of local governments, assessed proportionally to population, and also lump sums for ARC, Kiev, and Sevastopol (in 2008 the lump sums were equal to UAH 60 million, 350 million, and 30 million respectively).
- ²⁵ In Ukraine, all cities are divided into "cities," which are the capitals of *oblasts* or of ARC (26 cities) and into "cities of oblast status," which means all other, smaller cities located in the *oblasts* (or in ARC). Two cities have special status (recognized through special laws dedicated to them), namely Kiev and Sevastopol.
- ²⁶ Here and below, orphans stand for actual orphans and for children deprived of parental support.
- ²⁷ Students of boarding schools are either full-time (staying) students who live in the dormitory which is part of the boarding school, or day students (attending students), that is, students living at home who come to the school only for lessons.
- ²⁸ The discussion of 2004 formulas is based on Voytov (2003). The values for coefficients in 2007 were deduced from Kiev city calculations.
- ²⁹ See also the discussion of the consolidated budgets of Kiev city and rayons in comments following Table 1.2.

Reforming the Management and Financing of Kiev Education

Options for Reforms of Kiev's Education System

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INTRODUCTION

The city of Kiev is undertaking a series of wide-ranging reforms of its internal management and finance systems. The current Law of Kiev is being discussed and new proposals are being put forward. Inevitably, these changes will have profound and long-lasting impact on the delivery of all public services in the city. The present report focuses on one key public service, namely education, and reviews the options open to reformers.

Kiev enjoys a very special place in the Ukrainian system of public finance, as the detailed division of revenues and expenditure competencies between the city itself and its independent rayon authorities are not defined in the legislation. Indeed, the main law governing local public finance in Ukraine, namely the Budget Codex, treats the city as a single unit and leaves the determination of specific budget functions to the Law on Capital City and to the city administration (the same is true of the city of Sevastopol, although for different political reasons). Due to this fact, the city has considerable freedom in setting its internal rules of public finance, and in particular for setting its internal rules regarding the financing of education. A specific model developed for that purpose and operating in Kiev until the present time is described in the author's report *Between City and Rayons* (2011, see the first case study of the present volume). We refer to this as the *current model*. The current model assumes a significant sphere of independence of the rayons from the central city administration, and includes, as one of its constitutive elements, an assessment system for the budget needs of the rayons in the education sector based on five normatives of budget need (see Herczyński 2011).

The current model is now being questioned and revisited. Therefore a review of more general issues and principles of education finance at the present time might be useful for the reformers of Kiev's public finance system. Clearly, it is always the duty and challenge of new administration taking over the responsibility for the city to review the current model and decide on its future reforms and course of action. In this context, there is always intrinsic value in using past experience when assessing options for future reforms. In the case of education finance in Kiev, the report (Herczyński 2011) provides both a description of the current system, as well as an identification of its achievements and challenges. It may therefore be used as a reference for assessing possible alternative models.

The present note is a policy discussion paper of general character, and it does not propose specific solutions to the challenges facing the reformers of Kiev's administrative structures in education. Such specific solutions may emerge only in close collaboration of city officials with Kiev and national experts. The goal of the note, instead, is to formulate the main options clearly and to assess their respective benefits and shortcomings, so as to assist Kiev officials and experts in their discussions and to allow them to reach a reasonable and workable consensus.

Three basic models for future management of Kiev education are discussed, together with the best financing mechanisms compatible with these models: a centralized model, a model with strong autonomous rayons, and a model with strong autonomous schools. It may be noted that the centralized model seems to be the favorite of the present city administration, the autonomous rayons model was the preferred option of the author's report (Herczyński 2011), and the third model was consistent with the policy goals of the previous city administration.

Section 1 focuses on four basic principles of education management and finance, applicable to all education systems but having special importance for Kiev schools. These principles are then used as criteria for assessing possible managerial solutions. In Section 2, the three models are proposed and briefly discussed. The discussion focuses on problems and challenges which each model presents for its proper implementation. The third section provides a comparative review of the three models, which consists of applying the criteria developed below. The final section summarizes the findings and provides some general conclusions.

The present note is based primarily on the research conducted by the author and summarized in Herczyński (2011), the first case study of the present volume. It also uses a number of internal policy notes written by the author for the leadership of the Main Education Department in the City of Kiev in 2008 and 2009, listed in the references. Additional sources of information were the education strategy adopted by Kiev City Council in 2006, a general review of efficiency of Ukrainian education published by the World Bank (2008) and an internal policy note prepared in 2009 by staff of the Main Education Department, S. V. Prokhorenko. The author is grateful to former head of the Main Education Department, Lilia Mihailivna Hrinevich, to Svitlana Viktorievna Prohorenko, and to Irina Faion from LGI for open discussions and friendly criticism.

CRITERIA FOR EDUCATION MANAGEMENT AND FINANCE SYSTEMS

In this section we formulate four simple criteria that should guide thinking about the future structuring of management and finance of education in Kiev, namely principles of *equity*, *accessibility*, *stability*, and *transparency*. While our discussions in the succeeding sections focus on the city of Kiev, the principles themselves are more universal and may be useful for reform of the education system across Ukraine. To assist this, the formulation of the principles is deliberately kept at a more general level.

By the principle of *equity* we mean the obligation of local authorities to provide adequate and equal education to all children and youth living in the city. By adequate we mean that city authorities, building on national norms but supplementing them with their own additional regulations and programs, ensure that all students receive a

defined minimum standard education, in terms of teaching time (adequate availability of teaching process), teacher resources (adequate availability of qualified teachers), class size (adequate conditions in the classroom, such as avoidance of overcrowding), and school equipment (adequate availability of teaching aids, including computers, and access to school library). By *equal* we mean that the basic conditions for providing education in the city schools should be of a similar level, and in particular should not depend on the location of the school (in a poor or rich rayon) nor on the wealth of the parents (through financial or in kind parental contributions). There are legitimate differences in the provision of education, based on curriculum norms (specialized schools), school profiles (artistic or sports schools), an education stage (initial or secondary education). However, these differences should be based on merit and should be monitored closely by the city. For example, obtaining the status of specialized school should be a regulated process and should be based on clear norms and procedures, to avoid the situation in which all schools in some areas are specialized and become entitled to additional financing, while all schools in other areas remain unspecialized.

An important part of the principle of equity is the obligation of the city to provide a similar level of funding on a per student and per class basis to students receiving the same education and coming from roughly the same background. If some schools receive relatively large funding from the city, while other schools relatively little, leading to discernible differences in the provision of education (smaller class sizes, more teaching effort per class, more additional professional staff in the schools, better conditions of school buildings or more teaching equipment), then the principle of equity may be violated. Of course, there are always natural differences between individual schools due to the time of their construction or most recent renovation due to different efforts of the school director in procuring additional supplies to the school or due to different willingness and ability of parents to support the school. Therefore the city needs to define what levels of disparities between the schools are legitimate and acceptable, and what differences are inequitable and require intervention by the city authorities. Also the procedures of such potential interventions need to be established by the city and applied carefully.

By the principle of *accessibility* we mean that obligation of the local authorities to provide free and equal access to education. In the specific conditions of Kiev, this means:

- *No financial barriers to access to local schools.* If the student resides in the catchment area of a particular school, the school cannot impose formal or informal charges or other contributions as a condition of enrollment. The status of specialized school or the activities of School Support Council (parental organizations established to work with most of the public schools in Kiev) must not create barriers to enrollment.

- *No non-merit exclusion from access to specialized schools.* If the city maintains specialized schools with specific focus or profile, for example, artistic, language, or sports schools, or schools with specific educational profile (European profile, folk culture profile), then access to this school to interested students should be clearly defined in the school's statutes and procedures and should be enforced by the city authorities.

There is some evidence that equal access to renowned Kiev schools is not always in actual practice assured.

By the principle of *stability* we mean the obligation of the city to avoid sudden and unexpected changes in the way the schools are managed and financed. A sudden decrease of funding from year to year carries the risk that school activities will be disrupted or jeopardized. However, a sudden increase of funding may also result in non-optimal use of new funds (schools need to be prepared to spend the additional money well). Similarly, sudden changes in the levels of employment, including teachers, administration, professional staff such as psychologists or speech therapists, and technical staff may also threaten stable functioning of the school. The key aspect of the principle of stability is ensuring predictability of school finance. School directors and school managers should not be left worrying how and in what way their schools will be financed in the future. Instead, they should be free to concentrate on managing the pedagogical process.

There is no doubt that the principle of stability is especially hard to implement during the ongoing worldwide financial crisis. However, it should be kept in mind when reviewing possible models of school management and finance in Kiev.

Finally, by the principle of *transparency* we mean the obligation of local authorities to provide timely and adequate information to the schools, teachers, students, and parents regarding key decisions. Thus, for example, each school should know its expected levels of employment and funding, as well as the rules and procedures used by the authorities to determine the number of school staff and the school budget. If the city finances new programs or projects in the schools or undertakes school improvement programs, schools and parents should be clearly and fully informed before new activities are undertaken.

The four listed criteria may be used both to assess the proposed models of education management and finance, as is done in the following section, and to assess actual functioning of the local education systems. The latter use of the criteria is far more important but at the same time more difficult.

THREE MAIN POLICY OPTIONS

In order to keep the discussion compact and focused on the key problems, we propose to review three main options for the structure of the local education system in Kiev and

discuss the strong and weak points of each option. In practice, as education is a complex sphere of local activities addressing different needs and interests, no solution in education is ever a pure application of one model. Moreover, for the same reasons various elements of different models often may harmoniously coexist, so the three options should be seen more as three different aspects rather than as three mutually exclusive models. However, by focusing of the discussion on three clearly defined and distinct model solutions we are able to provide more clarity and point to important issues. This will also allow us to apply the criteria established in the previous section to each model, to identify both the intrinsic values and the intrinsic limitations of each model.

The three main options are as follows:

1) Centralized management of education

Under this option, the city introduces a citywide system of management and finance and treats all schools in exactly the same way, independently of their location, taking into account only the specific character of the school. Rayon administrations become the territorial offices of the central city administration and lose their political autonomy. In particular, rayon councils become irrelevant or are altogether abolished.

2) Strong autonomous rayons

Under this option, major responsibilities for the management and finance of schools are delegated to rayons. The central city administration is reduced to define citywide norms and procedures, as well as to auditing and crisis intervention. The city also needs to define the allocation of funds for education to the rayons, for example, through an education subsidy based on the number of students.

3) Independent autonomous schools

Under this option, the city creates a legal and institutional basis for strong autonomous schools, with well-defined budgets and guaranteed financial and pedagogical autonomy. The city needs to define allocation procedures for the schools (through some form of voucher or other needs-based system). The city will also need professional monitoring systems, to prevent inferior educational performance or financial abuse.

We discuss the strengths and weakness of each model separately in three subsections below. In the final subsection we provide a short comparative review.

Centralized Management of Education

By a centralized management of schools we mean the system in which rayon administrations are subordinate units of the overall city administration, acting as deconcentrated offices in the territory of the rayons. Due to the size of Kiev, with its nearly five million inhabitants, and due to the size of its school system, with over 500 schools, the centralized administration needs deconcentrated offices to effectively manage the whole system. In other words, Rayon Education Departments will be in effect delegated units of the Main Education Department of the city, with no managerial autonomy. Accordingly, the financing of the schools will be based on the same principles and conducted in the same conditions irrespective of the school location.

Under such a system, there are no separate budgets of rayons, and the responsibility for managing and financing schools rests with the Main Education Department and the Main Budget Department. Very clearly, such a centralized system is rather different from the current system (see Herczyński 2011). Currently, the rayons have their own budgets, approved through the vote of the rayon council. Given the very unequal distribution of tax and non-tax city revenues across the territory of the city, the centrally located rayons enjoy considerably stronger fiscal position than peripheral rayons. Indeed, as Table 2.1 shows, per capita budgets of city rayons (including education) range from 75 percent to over 195 percent of the city average.

Table 2.1
Population and Per Capita Revenues of Kiev Rayons

Rayon	Population (thousand)	Percent of total	Per capita budget (UAH)	Percent of city average
1 Golosiivskiy	219.1	8.2	985.2	98.5
2 Darnickiy	293.6	11.0	864.4	86.5
3 Desnanskiy	345.1	12.9	750.1	75.0
4 Dniprovskiy	337.3	12.6	902.4	90.3
5 Obolonskiy	308.1	11.5	849.5	85.0
6 Pecherskiy	129.9	4.9	1,225.9	122.6
7 Podilskiy	181.9	6.8	1,188.8	118.9
8 Svyatoshinskiy	319.9	12.0	923.8	92.4
9 Solomyanskiy	317.6	11.9	851.5	85.2
10 Shevchenkiskiy	224.3	8.4	1,962.7	196.3
Total	2,676.8	100.0	999.8	100.0

As a result, the central rayons may allocate to their schools considerable resources, significantly more than on the city's periphery. This deep-seated inequality of the current model has been analyzed in Herczyński (2009) and will be clearly absent under a centralized system. The resulting increase of fairness of the system is indisputably the key benefit of the centralized model.

However, centralization of education management and finance in the city is not an easy task, and requires careful preparation and planning. We formulate below four pivotal challenges facing the city, should it decide to move in this direction.

The *first challenge* will be to allocate new tasks and responsibilities to different levels of city administration. The expanded Main Education Department (through inclusion of the rayon departments) needs to develop effective procedures for management of the huge school network in Kiev and for financing these schools. Certainly, the former rayon education departments, now subordinated (delegated) units of the Main Department, will have to maintain many of their current roles in the sector, if only because Kiev schools form a system too large to be managed efficiently by one centralized apparatus. Therefore, a new division of responsibilities between the Main Department and the offices in the rayons will have to be devised and implemented. Accordingly, new procedures should be written. In fact, a clear description of the relevant task and of the flow of documents will be an extremely useful managerial step, in sharp contrast to the present system, largely based on laws and ordinances issued by the Ministry of Education—under such a system, the issues not covered in detail in legislation remain confusing and leave unnecessary freedom to officials.

The *second challenge* is the monitoring of processes taking place in schools. Here, the key role needs to be played by the recently implemented education management and information system in Kiev, called *AS Shkola*. There is no doubt that AS Shkola is a major asset of Kiev education and its use will contribute to good monitoring of the sector. Nevertheless, this system probably needs revision and strengthening, so that it can correspond to the new management and monitoring needs of the centralized education system in Kiev. Among directions for the strengthening of AS Shkola one can formulate the inclusion of all data files and data items used currently in the rayons for managing and control processes. These are employment levels for each school (*Штатний розпис*), detailed school budgets (*Контракт*), pedagogical salaries according to tariffication (*тарифікація*), and accounting of meals of students (*Розрахунок харчування*). In order to include all these data files in the centralized system, their present formats should be unified across the city (presently, almost every rayon uses a different formatting and structure of these files).

The *third challenge* is the development of city-wide procedures (or instructions) regarding the key processes of school *completion* and school *tarification*. These bureaucratic processes are still part of obligatory procedures; the first one governs the process of forming classes in schools (and of assigning teachers to different classes), the

second one is a calculation of teacher salaries based on the current workload of teachers. As long as Ukraine maintains these two old-fashioned, Soviet-style procedures, they must be used in all Kiev schools. However, the application of the rules is different in different rayons, and therefore the city needs to develop uniform instructions to ensure equity (equal treatment of different schools irrespective of their location). Due to the scale of the work involved, it seems reasonable to assume that these procedures will be carried out in the rayons (see first challenge above). Without instructions the city will not achieve uniformity.

The final *fourth challenge* regards the financing of schools. It will be very difficult to implement rational funding of schools without introducing some educational standards for the city. The areas that these standards may cover include the following:

- *Standards for class sizes.* Ukrainian legislation is very generous in not defining the minimum number of students in a class. However, the cost of the resulting inefficiencies has to be covered by the school owners, that is by the cities. Under a centralized management and finance system, given the large number of students and classes in Kiev schools, strict standards defined by the city and enforced in all Kiev schools will be necessary.
- *Standards for extracurricular teaching.* Kiev is well known for an innovative approach to provision of education, with a number of subjects and textbooks developed by the city for its own schools. These should be clearly stated in city documents along with the consequences for schools (number of teaching hours at the disposal of the school director and the degree of freedom the schools will have in allocating these hours).
- *Employment norms for non-teaching staff.* Here, we mean the number of allowed positions in schools for administration (for example, based on the number of classes), for support pedagogical staff (for example, based on the number of students), and for technical staff (for example, based on the building parameters).
- *Standards for school equipment.* As the richest city in Ukraine, Kiev has been able to invest heavily in its educational infrastructure. However, this was done largely through a series of investment projects, as the city budget and rayon budgets allowed. Moreover, the level and modernity of school equipment varies among the schools and among the rayons (in part due to different fiscal positions of different rayons). A much more sustainable approach is to define in a city document the required level of school equipment and to ensure through inspection that all the schools have this minimum level of equipment.

The importance of setting these norms relates to their immediate impact on the cost of running Kiev schools. Introduction of obligatory norms and their effective enforcement in all Kiev schools will be a major step towards equity in Kiev's education sector.

We also note that the centralization of Kiev education requires solving some serious legal and practical problems. One of them regards the ownership of school facilities. Since under the centralized model all decisions regarding the network, such as closing or opening of schools or of granting them special status (for instance, the status of specialized school), will be taken at the central level, the facilities should also be owned by the city itself. The second problem concerns the procedure for selecting school directors. The city will not be able to pursue its education policies without support and cooperation of all directors. Therefore, the city needs a dominating influence over their selection process. Due to the size of the Kiev school network, this will require development of strict guidelines for the selection and appraisal of school directors and of appropriate procedures. The procedures should also cover the process of dismissing the school director if she or he fails to follow established guidelines and other legal requirements.

Strong Autonomous *Rayons*

Recent decisions of the city authorities, such as dissolution of the rayon councils of deputies, seem to indicate that the rayons will have a much reduced role, and in particular will not have separate political identity defined through own elected governing bodies. This precludes the scenario of strong autonomous rayons as owners and managers of Kiev schools. However, even if this option is presently not accepted, it is still worth reviewing it briefly, at least in order to have a comprehensive review of the benefits and challenges of different models of education management in the city.

The system of strong autonomous rayons assumes that the real managing power over the school networks is delegated to 10 independent rayons. Under such a scenario, the main decisions in the sector are entrusted to the rayons, and the city administration assumes the role of overseeing the whole system, ensuring fairness and access, and intervening in cases when students' or teachers' rights are not respected. It should not be involved in regular managerial decisions and in the financing of individual schools.

In the area of education management, this model requires strict limitation of the powers of the central city administration in the sector, so that, for example, decisions regarding the school network, assessment and appointment of school directors, the specialization process of schools and comparable decisions are firmly delegated to the rayons. This is in sharp contrast to the current model, under which many decisions are left for non-transparent negotiations between the schools, rayons, and central city administration.

In the area of school finance, this model requires a specific grant for educational tasks from the city budget to the rayon budget, as well as a financial mechanism to equalize per capita revenues of different rayons. These two elements are clearly lacking in the current model, in which there is no specific transfer for education to the rayons, and equalization of revenues of different rayons is very weak.

However, one key element of this model is already well established, although somewhat hidden in the complex system of Kiev public finance. Namely, the city already has key elements of the allocation formula in the form of five normatives of budget needs in education. The normatives are described in Table 2.2.

Table 2.2

Kiev Normatives of Budget Needs in Education in 2007 and 2008

Normative of budget needs		2007		2008		Growth 2007–08
		Value	Relative	Value	Relative	
1	Preschool	4,665	177.9%	6,590	164.6%	41.3%
2	General secondary school	2,622	100.0%	4,003	100.0%	52.7%
3	Boarding school	11,963	456.3%	17,512	437.5%	46.4%
4	Special boarding school	16,295	621.5%	23,116	577.5%	41.9%
5	Orphanage	28,315	1,080.0%	42,099	1,051.7%	48.7%

The normatives are defined for the five most common educational institutions in the city: preschools, general secondary schools, general and special boarding schools, as well as for boarding schools for orphans (the extreme values of this last normative is due to the fact that besides educational purposes, the funds are used to support all life functions of the students). Interestingly and significantly, no special normative is used for specialized secondary schools. The normatives may play the role of a fair and transparent allocation formula, if they are developed and used systematically in a larger financial model, which should include a clear assignment of revenues to rayon budgets, alongside assignment of expenditure responsibilities.

The key *first challenge* of introducing the system of strong autonomous rayons is to develop their budgetary independence. This means defining and implementing a clear system of rayon revenue and expenditure responsibilities and giving rayon councils real power over the adoption, execution, monitoring, and reporting of their own budgets. This also means that rayon finances should be based on some stable foundations, so that the city does not use budget negotiations every year to change the rules of the game. This is a difficult challenge to meet. In particular, this model requires rethinking of the positioning and financing of all sectors of city public finance, not only in education but also in health, economy, social protection, water supplies, energy, roads, and so on. While the decisions regarding each sector may differ, some measure of logic and consistency is clearly necessary. Some sectors may be more centralized, other may be decentralized to the rayons, yet the overall system needs to be balanced and rational.

The following conditions should be met:

- Definition of rayon revenues. These should be based on sectoral transfers from the city. A separate transfer should be defined for each sector, in which rayons have responsibility, such as health, education, street cleaning, and so on. Rayon revenues may also include a fixed share of personal income tax, although these are collected on the basis of location of the employer (not the taxpayer), and therefore the distribution of these specific revenues is skewed towards the central rayons. A separate equalizing transfer may also have to be introduced.
- Within such a system of transfers, specific care needs to be taken with regards to how an education transfer is allocated to the rayons. The allocation mechanism should be based on the five normatives developed over the course of many years by the city, yet at the same time should be subjected to public scrutiny and discussion. In particular, the relative values of the normative need to be reviewed and critically assessed, and it might turn out that Kiev needs more than five normatives.
- Rayons should be given the powers to augment the education grant received from the city budget with other budgetary resources, and also perhaps to deduct funds from this grant in case it is more than sufficient for education expenditures and the rayon sees better alternative ways of spending the *excess funds*. This is one of the key strategic decisions that need to be taken when developing and implementing the autonomous rayon model.

There is also the *second challenge*, namely the institutional challenge of ensuring that rayon councils are democratically elected bodies able to resist pressures and expectations of the central city administration in order to represent the interests and hopes of their rayonal electorates. Strong rayons become a meaningful possible solution only if elections to the rayonal councils are democratic and introduce some measure of local accountability. At the same time, they should be seen to be independent of the city administration. For example, it should be perfectly possible for a different political option to hold power at the city level and at the rayon level. Once again we see that the success of institutional reform of Kiev's education system is strongly tied to more general reforms and strategies, encompassing not only the education sector but all the sectors and also the main political institutions in the city.

The *third challenge* will be how to deal with student migrations across rayon boundaries. As discussed in Herczyński (2009), this migration is quite significant and has a well-defined direction: from peripheral, weaker, and poorer rayons towards the central rayons. Under the centralized model this migration is not relevant. However, under the strong rayon model, the fact that students are able and willing to select schools from all over the city means that the rayons will be responsible not only for the education of

children of their own citizens, but also for the education of children coming in from other rayons (as well as coming in from outside the city of Kiev). If a rayon decides to augment its received education fund from such revenues as shared taxes, it will effectively be using money from its own taxpayers to improve learning conditions for taxpayers of other rayons. This potential conflict of interest cannot be entirely resolved; however, some measures may be instituted to make it less harmful. One way of achieving this, for example, is to ensure that the education grant per student is sufficient for education of high quality, reducing the need for augmenting it with own revenues of rayons. However, these problems are not easy to assess and resolve.

Finally, a perhaps less fundamental but still relevant *fourth challenge* regards the skills and qualifications of staff of rayon administrations. Under the current model, rayon staff has immediate access to the skills and competencies of the central city administration (indeed, the main career path of city officials is to start at the rayon level and proceed to the city level if they excel in their work). However, under the strong rayon model the interests and institutional goals of rayon officials and of city officials may diverge. Rayon administrations will try to service their own electorate and the children of their inhabitants rather than cooperate with other rayons. This will be apparent in many areas, such as competition for investment funds or in discussions of allocation procedures (so that one's rayon is not a loser in overall system reforms). This element of rivalry may reduce the willingness of separate administrations to learn from each other, and consequently will heighten the need for separate training programs.

It is of utmost importance not only how managerial and budgetary responsibilities are allocated between the three levels (schools, rayons, city), but also where will they be defined. If they are stated in the decisions adopted by the city council, they risk being changed and overturned whenever a conflict arises. If they are stated in national laws, for example, in the Law on the Capital City or in the Budget Code, then this introduces an additional element of rigidity and even potentially serious mistakes will be difficult to correct. Nevertheless, over time the definition of the powers and expenditure responsibilities of the rayons should be regulated nationally to be consistent with the powers and responsibilities of other levels of local government across Ukraine. The Budget Code is at present the key legislation in this area, so over time it should be expanded to include a description of the normative revenues and normative expenditures of Kiev rayons.

Strong Autonomous Schools

The model of strong autonomous schools assumes that the school is the basic educational institution, able to oversee and manage its own pedagogical efforts, introduce new teaching techniques, monitor the progress of students, and analyze performance of all

teachers, as well as define, execute and report its yearly budget. Autonomous schools, usually working alongside strong school boards or councils of parents and teachers, act independently of each other in conditions of competition for students. This competition may lead to development of new teaching programs and educational offers to students, and over time to better school performance.

The present Ukrainian education legislation leaves some room for school autonomy; however, this is rather restricted and does not encompass aspects of school life as enumerated above. Proper implementation of such a system in Kiev would require, apart from own decisions of the city administration, also amendments to the laws on education, on general secondary education, on vocational education and related legislation. Nevertheless, even today some elements of school autonomy are legally feasible, as shown by the experience of Desnanski rayon, where schools function in conditions of significant budgetary autonomy, employing their own accountants. In the discussion below, we use some of the experiences gathered in Desnanski rayon over the last 15 years.

The *first challenge* to introducing the model of strong autonomous schools is the legal definition of a school in the Ukrainian system. Although by law the school is a legal persona with all the responsibilities and rights of an independent institution, in practice the schools operate as parts of a wider institutional entity, namely the local government, which owns the schools. The school budget is determined through a complex procedure, and typically the school director does not understand all the details of the school budget and is not involved in this process. The accounting is performed outside the school. Budgetary decisions are very closely connected to the overall budget of the local government, so they are outside the field of interest and influence of the director. However, the model of strong autonomous schools assumes that each school is an independent institution, able to perform its own budgeting and accounting, only monitored by state institutions such as audit or school inspection. The implementation of this model therefore requires not only redefinition of the budget process in education (moving away from the completion and tariffication towards a more rational procedure for employment and budget definition), but also introduction of modern monitoring procedures, which will ensure early identification of breaches of the laws, of possible discrimination against some students, and of potential abuses of funds, while respecting and strengthening decision-making at the school level. Such monitoring procedures would be a novelty in today's Ukraine, making this a very serious challenge to the introduction of this model in practice.

An important part of this challenge is the definition of new management structures for Kiev schools. Under the current model, most managerial decisions, such as setting the number of staff of different types, are taken by the rayon administrations or school directors, subject to approval from the rayon. To maintain the public character of Kiev schools, alternative management lines will have to be established. A typical approach is to set up school boards, composed of representatives of teachers, parents, and city

officials. The school boards will need to have their powers clearly defined. Among the key problems is deciding who will select the school director. If the school director will be appointed by the school board, then the detailed composition of the board and its working procedures become extremely important and subtle issues. On the one hand, excessive representation of the school staff may effectively reduce societal control over the school, turning it into some sort of self-managed enterprise with no real owner. However, it is also dangerous to increase representation of the parents, as they have very specific and passing interests in the school activities (usually members of the school board resign as soon as their children graduate from the school) and are seldom sufficiently familiar with the pedagogical problems facing the school. It seems that introduction of powerful school boards with effective control over school activities will require changes to the national legislation.

We may use here the example of Desnanskiy rayon. The schools in the rayon obtained significant budgetary and accounting autonomy at the beginning of independence of Ukraine, when the local governments were very weak and faced a dramatic financial crisis. Under those conditions, autonomy seemed a good way for allowing school directors, in ever changing circumstances, to seek and ensure some financial stability. However, the succeeding years brought to the country increasing stability and predictability, and at the same time saw development of more effective monitoring and control systems. This reduced the effective autonomy of schools in Desnanskiy rayon, despite their tradition of setting their own budgets and maintaining their own accounting. A further blow to school autonomy was delivered with the introduction of the national treasury system. The schools in Desnanskiy rayon, unique in Kiev, became entities served directly by the treasury system. Subordination of school accounting to the requirements of the treasury system gave the city administration a powerful tool of control over the school budget process (it is a separate question whether that tool was well used). Thus the lack of proper national legislation means that the autonomy of schools in Desnanskiy rayon, despite the original intention, has become somewhat illusory.

This leads us directly to the *second challenge*, namely to the limitations of the treasury system in Kiev (the same limitations may be valid for all local governments in Ukraine, but their specific manifestations are probably different in different cities). Indeed, all budgetary independent institutions use the official treasury system to conduct their accounting and to make payments. Therefore, the ability of the treasury system to provide adequate service for school accounting, in particular to execute transactions and to furnish schools with timely and complete accounting information, becomes quite important. It seems that the treasury system in Kiev is able to execute transactions required by the schools but is not really responsive to their information needs. It is more a tool for budget execution than for management monitoring. It also imposes strong bureaucratic requirements on how city institutions, including the schools, operate.

Once again using the experience of Desnanskiy rayon, we note that the submission of accounting documents to the treasury system is a time-consuming and bureaucratic process. In order to satisfy the expectations of the treasury system, schools have to employ more than one accountant each. Thus, even simply executing the budget is a difficult process. Extending the procedures operating in Desnanskiy rayon to the whole city without reforming the treasury system will increase the administrative and operational burden on schools without providing them serious advantages in terms of more effective budgeting and planning.

The *third challenge* to successful implementation of this model is related to the necessary new financial mechanisms for the schools. The city needs to define the transfers to public schools and at the same time also new allocation procedures. Typical allocation methods used in different countries to finance independent schools are various forms of *school vouchers*, that is, financial transfers proportional to the number of students. For Kiev, the starting point for the voucher system could be the present five normatives of budgetary need (as discussed in the previous sections). Simple school vouchers, however, create strong inequalities between the schools. Indeed, if the school budget is defined as the number of students (enrolled, for example, on September 15 of the previous year) multiplied by a fixed financial amount or normative (the voucher), than typically small schools are at a disadvantage and large schools receive relatively very generous allocations. Therefore, more careful approaches use subtler financial mechanisms, for example, by adding a lump sum component into the formula, by creating more types of vouchers for different types of schools, or by breaking down allocated amounts into smaller separate pieces. The later approach, for example, may distinguish between allocation for regular teaching and care, for the financing of students with special needs, for dedicated programs for gifted students, and finally funds for the maintenance of school infrastructure. However, when the financial system becomes more complex, it will raise more discussions and more issues, so reaching political compromise on the adopted solutions will be more difficult.

The final *fourth challenge* concerns the existence and activities of parental organizations (*попечительский комитет, попечительский совет*) established at virtually all Kiev schools. While such associations exist in most Ukrainian schools, their strength and influence is particularly strong in the capital city, home to many wealthy parents. By law, these are voluntary charitable associations of parents, established with the scope of providing additional funds to schools through donations, organization of school fairs, and other activities. However, in practice their role in Kiev schools is much greater. The extra-budgetary funds collected by these associations in some cases are comparable to the budgets of the schools as defined by the city administration, while in other schools they are rather limited. The use of these funds is controlled by the association, which means a few active parents working closely with the school director. In particular, the

city officials cannot demand and examine the books of these associations, which are only controlled by appropriate financial audit. The money is used primarily for school investment, equipment and supplementing the salaries of school staff. Typically, it is the school director who decides on his own which teacher or administrator should be paid how much. This leads to hidden but presumably very significant variation of actual school budgets between the schools and rayons (some of that variation may even be seen while visiting some Kiev schools). It also informally but significantly strengthens the position of the school director with respect to his staff. Anecdotal evidence suggests that donations to the parental associations by parents of school students are not always treated as voluntary and that poorer parents find themselves at a disadvantage.

The future regulation of parental associations will be a key problem under any adopted model of Kiev education management and finance, but becomes especially acute under the model of strong autonomous schools. There is a clear danger that increasing the autonomy and budgetary independence of schools will strengthen the parental associations and will make them ever stronger in strategic development and in daily management of educational institutions. Even under the current system, the city administration is a rather weak monitoring agent, very limited in the information on activities of parental associations it can gather and in the scope of corrective measures it can impose. The model of strong autonomous schools will reduce this role even further. Therefore, alternative monitoring and control mechanisms will have to be devised and implemented to prevent potential *de facto* privatization of the best public schools in Kiev.

COMPARATIVE REVIEW OF THREE MODELS

The three models with their specific features and challenges have been described in the three previous subsections. We now come to the comparative review of the models, using the principles established in Section 1 as the main criteria for assessing the models.

Table 2.3
Three Models Assessed by Main Principles

Principle	Centralized model	Autonomous rayons	Autonomous schools
Equity	Equity may be ensured through rigorous application of citywide education norms	If rayons may use their general revenues to finance their schools, equity may become a problem, so strong equalization among the rayons might become necessary	Ensuring equity will require not only a public formula setting the budgets of all schools but also monitoring of parental contributions
Accessibility	Procedures defined at the city level offer good chance of ensuring universal access, if they include provisions for specific Kiev obstacles to access (such as restricted access to specialized schools due to entry exams).	Access may be compromised because of serious migration of students between the rayons, making rayon-level procedures and rules ineffective.	If school catchment areas are abandoned, serious issues may appear for students living close to prestige schools but unable to enroll due to excessive competition from children from wealthier family backgrounds.
Transparency	Centralized model is not transparent due to its dependence on administrative measures and controls. Therefore, specific steps will have to be taken to provide sufficient information to parents and to the general public.	Publicly available allocation formula for education grants to the rayons will improve transparency. However, the second step of setting the school budgets will remain unclear.	Formula defining the budget allocation to each school, based on the enrollment and publicly available, promotes transparency of the system. The main obstacle to transparency will remain the operation of parental committees (providing additional revenues to schools without public knowledge and scrutiny).
Stability	If education finance is based on the budget of the whole city, its stability is assured due to the wide-ranging sources of city revenues.	Stability of education will be assured under the condition that the per student grants to rayon budgets are defined in such a way that the rayons have no need (only the opportunity) to complement these grants with funds derived from other rayon revenues.	Financial stability of schools under a system of per student budgets is threatened by sudden changes in student numbers. Stability may be ensured only at the expense of strong year-to-year buffers, which decreases allocation efficiency and transparency.

As Table 2.3 indicates, the four criteria of equity, accessibility, transparency, and stability are not easy to meet simultaneously. The three models of education governance and finance meet these criteria to differing degrees, but none is universally strong or universally weak. Rather, we may conclude that each model presents different difficult challenges to an equitable, accessible, transparent, and stable system. Irrespective of the approach chosen, much care and thought will have to be devoted to fine-tuning all the procedures and rules adopted in the different spheres of education. Citywide public discussions of all the details of education governance and education finance will be necessary under any chosen scenario. In some sense, these discussions and the adopted procedures and rules are even more important for education finance than for the general direction of any future reforms. The general direction represents an overall policy decision and reflects general attitude towards city management, including all important sectors such as education. However, any such directions requires, for its proper and successful implementation, thoughtful and harmonized procedures, formulas, reporting mechanisms, monitoring systems, and indicators, as well as alarm thresholds for these indicators.

CONCLUSIONS AND RECOMMENDATIONS

We have presented and reviewed in Section 2 three models of education management and finance for Kiev's education sector. The key challenges of each model were identified and discussed. We have also provided a comparative review of the three models in light of more general education principles (formulated in Section 1). We are now able to make a few general comments regarding the three models.

Each model has some features and solutions which may be adopted without implementing all the remaining elements of the model. This means that the three models discussed above do not represent opposite and incompatible complete solutions, but are in fact three visions, which may be combined to some degree and with different emphasis on what is most important or useful. It is up to Kiev officials and experts to agree on the specific mix of elements which will be best and most functional in the city.

For the centralized model, the citywide education management and information system is certainly a key instrument which needs to be developed and used in any scenario. AS Shkola is a necessary element of the centralized model, but its value is also apparent in the remaining models. If rayons are made strong autonomous owners of schools, then AS Shkola will be the key tool for the city to monitor the evolution of the Kiev school system, to control the performance of rayons, and for ensuring equity across the rayons and complete access to education. In the model of strong autonomous schools, the same system will play the key role in monitoring the activities of schools.

Nevertheless, the three models are distinct ways of managing and financing education. In the areas of school finance and network management, each model provides specific features, inconsistent with the other two models. Therefore serious thought is needed to assess what is best for Kiev in the present conditions. The responsibility for this intellectual discussion and for resolving the contradictions inherent in any serious reform proposals rests with Ukrainian experts.

Some of challenges to successful reform raised in the preceding sections are common to all the models, but are especially acute for one of the three models. This is especially the case of non-monitored activities of parental associations and their effects on school equity. As long as there is a public institution responsible for all the schools, be it the central city administration or the rayons, there is some recourse to potential abuses of power at the school level. However, the model of strong autonomous schools does not provide such a recourse and the challenge needs to be addressed directly.

The focus of all of the discussions presented in the present policy note is on problems and challenges. Indeed, it is always important not to underestimate problematic issues and potential difficulties that lie ahead, especially when attempting a far-reaching reform of a major public service such as education. In order to avoid errors and steer the reforms to a successful conclusion, there is no better approach than opening public discussions and taking into account critical opinions and alternative suggestions.

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